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Faculty
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(Graduate Adviser)
Elisa J. Sobo, Ph.D., Professor of Anthropology
Todd J. Braje, Ph.D., Associate Professor of Anthropology
Matthew T. Lauer, Ph.D., Associate Professor of Anthropology
Arion T. Mayes, Ph.D., Associate Professor of Anthropology
Casey J. Roulette, Ph.D., Assistant Professor of Anthropology
Isaac I.T. Ullah, Ph.D., Assistant Professor of Anthropology
(Graduate Adviser)

Scholarships
The department offers two competitive, internal scholarship programs, the Norton Alien Scholarship and the Al Sonek Biological Anthropology Scholarship. The department also hires a small number of graduate students for a variety of graduate assistant (GA) and instructional student assistant (ISA) positions. Applications and additional information can be found on the department website at http://anthropology.sdsu.edu/.

General Information
The department 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 archaeology, biological anthropology, environmental anthropology, ethnology, linguistics, 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.

Students who graduate with the Master of Arts degree in anthropology in either the general or applied anthropology specialization will be prepared for a variety of opportunities, including teaching careers.

Admission to Graduate Study
To be considered for graduate admission at San Diego State University, applicants must follow the three step process outlined below. For more detailed information regarding the admissions process, visit http://anthropology.sdsu.edu/graduate.html.

Step 1: Complete the Cal State Apply application by the SDSU deadline (see http://arweb.sdsu.edu/es/admissions/grad/index.html for dates).

Applicants must submit the California State University application available at http://www.cajstate.edu/apply along with the $55 non-refundable application fee. Cal State Apply will begin to accept applications October 1. Once applicants have submitted the Cal State Apply application, a RedID number will be assigned and e-mailed within 3-5 business days. The RedID number will allow applicants to track the status of their application through the SDSU WebPortal at http://www.sdsu.edu/portal.

Step 2: Submit official transcripts and test scores to Graduate Admissions by the SDSU priority cycle deadline (see http://arweb.sdsu.edu/es/admissions/grad/index.html for dates).

After applicants have submitted the Cal State Apply application and received their RedID number, applicants must send official transcripts and test scores to Graduate Admissions. Sending transcripts before submitting the Cal State Apply application will result in processing delays.

Applicants must provide the following:
(1) Official transcripts (in sealed envelopes) issued within the last year, from all U.S. colleges and universities attended. Students who previously attended SDSU need only submit transcripts for coursework completed since last attendance. Hard copies of SDSU transcripts are not required;
Students with international coursework must submit both the official transcript and proof of degree. For country specific requirements, visit http://anthropology.sdsu.edu/graduate.html;
(2) GRE scores sent directly from Educational Testing Services (ETS) using SDSU Institution Code 4682. University requires that all sections (verbal, quantitative, analytical writing) of the GRE be completed;
(3) TOEFL scores are required of all applicants, regardless of citizenship, whose native language is not English and whose preparatory education was principally in a language other than English. A minimum score of 80 is required. Scores should be sent directly from ETS using SDSU Institution Code 4682.

The above listed materials should be sent to:

Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416
For further questions regarding Steps 1 and 2, contact Graduate Admissions at 619-594-6336 or e-mail admissions@sdsu.edu. International applicants may contact the international recruitment office at 619-594-1847 or e-mail intladmission@sdsu.edu.

Step 3: Complete anthropology Master of Arts application by the SDSU priority cycle deadline (see http://arweb.sdsu.edu/es/admissions/grad/index.html for dates) at http://gra.sdsu.edu/decisiondesk.

The anthropology Master of Arts application requires the following items:
(1) Statement of purpose. The statement of purpose is a very important part of the application, as it allows the faculty to assess intellectual sophistication, writing skills, clarity of purpose, and potential for success in the Master of Arts program. The statement of purpose should be limited to two to three single-spaced pages and clearly articulate intended research interests, including geographical and methodological interests (if appropriate). If research plans are not yet fully developed, clarify what topics and issues in anthropology the applicant is most interested in pursuing and propose possible contexts in which to study them. Statements should not be an extended narrative about personal history, except as relevant to research plans. Elements that would make for a strong statement include, but are not limited to: the intellectual and/or applied importance of the area of interest; a discussion of preparedness to undertake graduate level study (e.g., coursework, field schools, previous research experience, etc.); the name of at least one SDSU anthropology faculty member who would be a suitable thesis adviser and an explanation of her/his selection; and, a discussion of the compatibility of interests with the SDSU anthropology program/faculty research areas;
(2) Copies of transcripts from all colleges and universities attended (these do not need to be sent directly from the colleges - photocopies are acceptable);

(3) Copies of GRE (if applicable, TOEFL) test scores;

(4) Three letters of recommendation. Applicant must provide names and e-mail of three individuals who can write a letter of recommendation on the applicant’s behalf; who know the applicant well, and can evaluate the applicant’s ability to perform and succeed at the graduate level. Requests for letters of recommendation will be e-mailed to the recommenders via e-mail address provided by applicant;

(5) Sample of written work representative of the applicant’s research and writing skills;

(6) Curriculum vitae or resume.

For further questions regarding Step 3, contact the Department of Anthropology at 619-594-5527, or e-mail anthro@mail.sdsu.edu.

**Admission to the Degree Curriculum**

All students must satisfy the general requirements for admission to the university with classified graduate standing, as described in Part Four of this bulletin. Except under special circumstances, prospective applicants must meet the following minimum admission requirements:

(1) Hold an acceptable baccalaureate degree from an accredited institution or equivalent as determined by the Division of Graduate Affairs;

(2) Have attained at least a 3.0 GPA on all work leading to the bachelor’s degree and subsequent post-baccalaureate coursework;

(3) Have been in good standing in the last institution attended; and

(4) Have a combined verbal and quantitative GRE (Graduate Record Examination) score of at least 950 on the old test (prior to August 1, 2011) or 294 on the new test and a minimum of 4.0 on the analytic essay.

Applicants who meet the minimum admission requirements but who do not have a strong background in anthropology may be admitted conditionally. Conditionally admitted students will be required to complete specified courses in addition to the minimum 33 units required for the Master of Arts degree.

**Advancement to Candidacy**

All students must satisfy the general requirements for advancement to candidacy as described in Part Four of this bulletin. In addition, the department requires for either the General Anthropology specialization or the Applied Anthropology specialization that the student must:

(1) Complete all deficiency courses (needed only if admitted with conditional graduate standing);

(2) Complete all required coursework (except ANTH 799);

(3) Satisfy the foreign language requirement or demonstrate upper division competency in statistics or GIS (with a grade point average of 2.5 or better) and submit a report for foreign language completion form (available on Graduate Affairs website at http://gra.sdsu.edu/) to the graduate adviser;

(4) Maintain at least a 3.0 GPA in all other courses applied to the Master of Arts degree including any transfer credit;

(5) Inform the graduate adviser to submit a program of study (POS);

(6) Form a thesis committee;

(7) Complete a thesis proposal and have it approved by the student’s committee. Submit a thesis approval form (available on the department website at http://anthropology.sdsu.edu) to the graduate adviser;

(8) Obtain human or animal subjects approval (if applicable);

(9) Submit a signed Appointment to Thesis Committee form to the graduate program adviser.

**Specific Requirements for the Master of Arts Degree**

(Major Code: 22021) (SIMS Code: 110901)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the Master of Arts degree as described in Part Four of this bulletin, no grade below a B (3.0) is acceptable for coursework on a student’s program of study (POS) and students must complete a graduate program of at least 33 units of graduate courses with a 3.0 GPA that include the required courses listed below for each specialization. No more than three units of Anthropology 798, Special Study, and/or three units of Anthropology 795, Internship, may be used toward satisfaction of the degree. Courses required to remove undergraduate deficiencies and those used to fulfill the language or statistics requirements are in addition to the minimum 33 units required for the Master of Arts degree in anthropology.

**General Anthropology Specialization**

(SIMS Code: 110940)

1. Anthropology 601, 602, 603, 604 (with no less than a grade of B). Only classified students may enroll in these courses;

2. One of the following methods courses: Anthropology 501, 505, 508, 520, 531, 583 (Paradise Lost), Latin American Studies 601;

3. Anthropology 797 (3) Cr/NC/RP;

4. A minimum of 12 units of coursework numbered 500 or above from any department (with a maximum of nine units outside of the anthropology department) determined in consultation with the student’s thesis adviser;

5. Anthropology 799A, Thesis (3) Cr/NC/RP.

**Applied Anthropology Specialization**

(SIMS Code: 110910)

1. Nine units selected from Anthropology 601, 602, 603, 604 (with no less than a grade of B). Only classified students may enroll in these courses;

2. Anthropology 605 (with no less than a grade of B);

3. One of the following methods courses: Anthropology 501, 505, 508, 520, 531, 583 (Paradise Lost), Latin American Studies 601;

4. Anthropology 795, Internship in Anthropology (3-9) Cr/NC. Only classified students may enroll;

5. Anthropology 797, Research (3) Cr/NC/RP;
Anthropology

6. A minimum of nine units of coursework numbered 500 or above from any department determined in consultation with the student's thesis adviser;

7. Anthropology 799A, Thesis (3) Cr/NC/RP.

As a requirement for the Master of Arts degree, all graduate students must present their thesis research as an oral examination with all committee members present. Only Plan A, requiring the thesis, is permitted for the Master of Arts degree in anthropology.

Courses Acceptable for Master's Degree Program in Anthropology (ANTH)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

ANTH 501. Primate Behavioral Ecology (3)
Prerequisite: Anthropology 301.
Ecology and behavior of non-human primates to include history of primate ecological research, feeding ecology, predation, demography and dispersal, reproduction, conflict and cooperation, conservation as well as contemporary primateology.

ANTH 505. Human Osteology (3)
Two lectures and three hours of laboratory.
Prerequisite: Anthropology 301.
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.

ANTH 508. Medical Anthropology (3)
Prerequisite: Anthropology 303.
Socio-cultural ecology of disease, medical health beliefs and practices in cultural context, and complexities of health care delivery in pluralistic societies.

ANTH 510. Environmental and Ecological Anthropology (3)
Prerequisite: Anthropology 303.
Ecological thinking in anthropology with focus on relationships between human environmental and ecological systems in tribal, peasant, and industrial societies. Cultural aspects of how and why human societies have maintained or undermined their ecosystems.

ANTH 520. Ethnographic Field Methods (3)
Prerequisite: Anthropology 303.
Problems and techniques of field work in ethnographic and social anthropological research; field work projects conducted using various qualitative and quantitative research techniques. Students work with informants in various settings.

ANTH 529. Urban Anthropology (3)
Prerequisite: Anthropology 303.
Urban adaptations of past and present societies. Descriptive topics and applied concerns regarding urban origins, migrations, kinship, ethnicity, stratification, and change. Ethnographic examples drawn from Western and non-Western societies.

ANTH 531. Methods in Applied Anthropology (3)
Prerequisite: Anthropology 303.
Anthropological concepts and methodologies to solve human problems in both western and non-western societies through intervention, community development, impact assessment, and cultural communication.

ANTH 532. Anthropology of Development and Conservation (3)
Prerequisite: Anthropology 303.
Anthropological perspectives on design, implementation, and assessment of development projects and conservation initiatives in "Third World." Interlinkages between resource exploitation, underdevelopment, and local autonomy; and political and ethical dilemmas faced by anthropologists involved in projects.

ANTH 533. Race, Ethnicity, and Identity (3)
Prerequisite: Anthropology 303.
Theories and practices of race, ethnicity, and identity from a cross-cultural and anthropological perspective. History of race in US and other regions, focusing on how identities are constructed around concepts of difference.

ANTH 536. Gender and Human Sexuality (3)
Prerequisite: Anthropology 303.
Constructions of gender and sexuality from anthropological perspective. Social constructions of body, norms, deviance, and medicalization of sexuality.

ANTH 537. Anthropology of Childhood (3)
Prerequisite: Anthropology 303.
Childhood in diverse cultural settings; evolutionary, biosocial, and health-related aspects of childhood; social and cultural uses of idea of childhood; enculturation and children's relationship to material culture.

ANTH 550. Advanced Archaeological Field Techniques (3)
Six hours of activity.
Prerequisite: Anthropology 312.
Advanced projects in excavation and stabilization of ruins, archaeological surveys, laboratory analysis, preparation of reports, and act as unit supervisor. Course may be repeated with consent of instructor. Maximum credit six units.

ANTH 551. Archaeological Laboratory Methods (3)
Two lectures and three hours of laboratory.
Prerequisite: Anthropology 302.
Application of palynology, paleontology, and relevant technologies. Individual laboratory research project required.

ANTH 582. Regional Anthropology (3)
Prerequisite: Consent of instructor.
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.

ANTH 583. Topical Anthropology (3)
Prerequisite: Consent of instructor.
Study of a major subdiscipline such as political anthropology, economic anthropology, social anthropology, psychological anthropology, cultural ecology, applied anthropology, anthropological genetics, or environmental archaeology. See Class Schedule for specific content. May be repeated with new content. Maximum credit six units.

ANTH 596. Topics in Anthropology (1-3)
Prerequisite: Consent of instructor.
Advanced topics in anthropology. 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.
GRADUATE COURSES

ANTH 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.

ANTH 601. Seminar in Biological Anthropology (3)
Prerequisite: Classified graduate standing.
History, theory, and current research in biological anthropology. Key literature from core topical areas such as primatology, paleoanthropology, human biology, bioarchaeology, and skeletal biology.

ANTH 602. Seminar in Archaeology (3)
Prerequisite: Classified graduate standing.
History and theory in archaeological data collection, analysis, and interpretation.

ANTH 603. Seminar in Ethnology (3)
Prerequisite: Classified graduate standing.
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.

ANTH 604. Seminar in Linguistics (3)
Prerequisite: Classified graduate standing.
History and theory of linguistics stressing the significant literature on such topics as cultural cognition, descriptive linguistics, lexicostatistics, and transformational analysis.

ANTH 605. Seminar in Applied Anthropology (3)
Prerequisite: Classified graduate standing.
Use of anthropological theory and methods in solving contemporary social problems. Contemporary ethnographic examples from differing regions of the world reviewed to understand complexity and locally specific variables that must be addressed in proposing interventions and solutions.

ANTH 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.

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

ANTH 797. Research (3) Cr/NC/RP
Prerequisite: Classified graduate standing.
Independent investigation in the general field of the thesis.

ANTH 798. Special Study (1-3) Cr/NC/RP
Prerequisite: Classified graduate standing.
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.

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

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

OFFICE: Art 505
TELEPHONE: 619-594-6511 / FAX: 619-594-1217
E-MAIL: artinfo@mail.sdsu.edu
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Faculty
Kotaro Nakamura, M.A., Professor of Art and Design, Director of School
Richard A. Burkett, M.F.A., Professor of Art and Design
Tina Marie Yapelli, M.A., Professor of Art and Design
Patricia C. Couttolenc, M.F.A., Associate Professor of Art and Design
Matthew G. Hebert, M.F.A., Associate Professor of Art and Design
Richard C. Keely, M.F.A., Associate Professor of Art and Design
Arzu Ozkal, M.F.A., Associate Professor of Art and Design
Sondra Sherman, M.F.A., Associate Professor of Art and Design
Mark J. Sprut, M.F.A., Associate Professor of Art and Design
Kim Stringfellow, M.F.A., Associate Professor of Art and Design
Eva Strublie, M.F.A., Associate Professor of Art and Design
Carlos A. Castro Arias, M.F.A., Assistant Professor of Art and Design
Bridget E. Gilman, Ph.D., Assistant Professor of Art and Design
Matthew J. Higgs, M.Sc., Assistant Professor of Art and Design
Adam J. Manley, M.F.A., Assistant Professor of Art and Design
Kerianne M. Quick, M.F.A., Assistant Professor of Art and Design
Matthew G. Hebert, M.F.A., Associate Professor of Art and Design
David Hewitt, M.F.A., Lecturer in Art and Design
(Graduate Adviser)

Assistantships and Tuition Waivers
Graduate assistantship and teaching associate positions in art are available to a limited number of qualified students. Tuition waivers and scholarships for out-of-state and international students are also available on a limited basis. Applicants should contact the graduate adviser for additional information.

General Information
The School of Art and Design 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 and 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. concentration in studio arts is designed to prepare students for proficient and successful practice as professional artists and is offered in the following areas: ceramics, furniture design and woodworking, graphic design, interior design, jewelry and metalworking, multimedia, painting and printmaking, and sculpture.

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. The M.F.A. degree requires 60 units and can be completed in three years. The degree is offered in ceramics, furniture design and woodworking, graphic design, interior design, jewelry and metalworking, multimedia, painting and printmaking, and sculpture.

The School of Art and Design has expansive facilities offering the student excellent studio space and state-of-the-art equipment. In addition, the Museum of Contemporary Art San Diego, San Diego Museum of Art, Stuart Collection, and the Timken Museum of Art offer a range of contemporary and global historic art, as well as specialized libraries for research. All are convenient to public or personal transportation. There are also numerous community college galleries and commercial galleries with a wide variety of offerings.

Admission to Graduate Study
Applicants should submit the California State University application (available at http://www.calstate.edu/apply) along with the $55 nonrefundable application fee electronically by December 15. All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the School of Art and Design by January 12.

Graduate Admissions
The following materials should be submitted as a complete package directly to:

Graduate Admissions
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-7416

(1) Transcripts: Send official transcripts (in sealed envelopes) issued within the last year from all U.S. postsecondary institutions attended;
- Do not send transcripts before submitting the Cal State Apply application as this may result in processing delays.
- If you previously attended SDSU, you need only submit transcripts for work completed since last attendance. If you are a current SDSU student, you are not required to submit an SDSU transcript.

(2) International documents: Students with international coursework must have the institution send one official language record of all academic coursework and proof of degree. For each document, applicants must also send a certified literal English translation which can come directly from the institution or from a professional certified translator. The translation must contain all information shown on the original language documents.
- GRE scores: for (a) all Master of Arts (M.A.) degree applicants, (b) Master of Fine Arts (M.F.A.) degree applicants whose bachelor's degree grade point average is below 3.0; and (c) all applicants whose bachelor’s degree was completed outside the U.S. (http://www.ets.org SDSU institution code 4682);

(3) English Language Proficiency (for international students only):
- All graduate and post-baccalaureate applicants, regardless of citizenship whose native language is not English and whose preparatory education was principally in a language other than English must demonstrate competence in English. Those applicants who do not possess a bachelor's degree from a postsecondary institution where English is the principal language of instruction must submit official TOEFL (http://www.ets.org SDSU institution code 4682) or IELTS (http://www.ielts.org) results.

Master of Fine Arts Degree in Art
Master of Arts (Studio Arts) Degree in Art
The following admissions materials must be submitted electronically by the January 12 deadline via DecisionDesk, http://decisiondesk.sdsu.edu/Art_All_Programs.html

(1) School of Art and Design application;
(2) Statement of purpose addressing your professional goals and reasons for selecting the School of Art and Design at SDSU for your pursuit of these goals;
(3) Artist statement that describes the nature and content of the work shown in the portfolio;
(4) Digital portfolio of your work. Digital images should not exceed 1024 x 768 pixels, and should be presented either as a collection of JPEG files in a folder along with a caption list, or as captioned images contained within a single PDF or with PowerPoint;

(5) Current curriculum vitae or resume;

(6) Two letters of recommendation from art instructors (or others) who are able to comment on your artistic potential in the area of specialization. Letters can be sent separately or included with your application in sealed and signed envelopes;

(7) One copy of unofficial or official transcripts for all college- and university-level institutions attended;

Master of Arts (Art History) Degree in Art

The following admissions materials must be submitted electronically by the January 12 deadline via DecisionDesk, http://decisiondesk.sdsu.edu/Art_All_Programs.html:

(1) School of Art and Design application;

(2) Statement of purpose addressing your professional goals and reasons for selecting the School of Art and Design at SDSU for your pursuit of these goals, what you plan to accomplish at SDSU (in which areas do you plan to specialize), and what your long range career goals are;

(3) A copy (it will not be returned) of your best term paper or seminar report, or reprint of a published article, accompanied by a statement explaining how you came to your topic, your method of research, and the facilities available;

(4) Three letters of recommendation from instructors who can assess your academic performance (you may include one museum reference). Letters can be sent separately or included with your application in sealed and signed envelopes.

Master of Fine Arts Degree in Art

Admission to the Degree Curriculum

All applicants must satisfy the requirements for admission to the university with classified graduate standing, as described in Part Two of this bulletin. In general, applicants must have completed a bachelor's degree in studio art or the equivalent from an accredited institution, including 12 units of art history. A grade point average of 3.25 or better in upper division art courses is required.

Applicants must also be able to show that they are adequately advanced to carry out projects that are up to graduate level standards. This requirement will be measured by a review of a digital portfolio or recent work by the graduate faculty in the area of focus.

Advancement to Candidacy

In addition to meeting the requirements for advancement to candidacy as described in Part Four of this bulletin, all students must have (1) completed a minimum of 30 units of program coursework with a minimum grade point average of 3.0 [B]; and (2) been reviewed by a selected group of graduate faculty 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) (SIMS Code: 660503)

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 emphasis areas (ceramics, furniture design and woodworking, graphic design, interior design, jewelry and metalworking, multimedia, painting and printmaking, and sculpture). 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. With approval of the director and graduate adviser, a student may focus on a program of study combining two studio art fields. In addition, there will be an oral examination of each candidate by the graduate faculty of the School of Art and Design. 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 adviser of the School of Art and Design. Candidates must be prepared to spend at least two semesters (24 units) in residence as full-time students. Coursework 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 adviser.

Thesis and Projects in Art

The project required for the Master of Fine Arts degree is an original body of creative artwork accompanied by a written report. Written reports accepted in satisfaction of a requirement for the master’s degree are cataloged and maintained in the SDSU library. A softbound copy of the written report accompanying a master’s thesis exhibition must be provided by the candidate and will be retained in the School of Art and Design’s graduate advising office.

Master of Arts Degree in Art

Admission to the Degree Curriculum

Studio Arts

Admission to the Master of Arts degree program in studio arts is limited to the fall semester. Applications and portfolios for the annual graduate review must be submitted to the graduate adviser by January 12.

All applicants must satisfy the requirements for admission to the university with classified graduate standing, as described in Part Two of this bulletin. In general, applicants must have completed a bachelor’s degree in studio art or the equivalent from an accredited institution with a minimum of 24 upper division units, including two semesters of the history of art, before they will be permitted to enter the graduate program. Applicants must also be able to show that they are adequately advanced to carry out projects that are up to graduate level standards. This requirement will be measured by a review of a digital portfolio of recent work by the graduate faculty in the area of concentration. The range should be great enough to give the faculty a knowledge of the candidate’s strengths and weaknesses. If it is determined that the applicant is capable of doing graduate level work, he/she may be permitted to begin such work even though he/she has not completed an appropriate undergraduate degree in art.
In addition to the requirements for admission to the university, students wishing to be admitted to the art history graduate program with a classified graduate standing must complete the equivalent of the graduate requirements as specified in the current General Catalog (a minimum of 39 units of art history to include Art 593).

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 conditional standing.

Advancement to Candidacy

Studio Arts

In addition to meeting the requirements for advancement to candidacy as described in Part Four of this bulletin, all students must have: (1) completed a minimum of 12 units of program coursework 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 concentration.

Art History

 Classified graduates should contact the graduate adviser to discuss their individual graduate programs before the third week of their first semester.

Before advancement to candidacy, classified graduate students working for the Master of Arts degree with a concentration in art history must pass a qualifying examination in art history. Classified graduate students must have completed three semesters of college level French or German or, on the advice of the art history faculty, the language necessary for thesis research. Alternately, with the consent of the art history faculty, students may demonstrate a reading knowledge of the appropriate language by passing the Graduate School Foreign Language Examination (the French MLA examination is given by the Testing Services Office during the beginning of each semester; contact the School of Art and Design for permission to take the examination). 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 Four of this bulletin, 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 for master's degree programs in art, of which at least 16 units must be in 600- and 700-numbered courses.

Studio Arts Concentration

(Major Code: 10021) (SIMS Code: 660589)

Those electing studio arts must complete a minimum of 18 units in the area of specialization. Art 694, 760, and 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 Concentration

(Major Code: 10031) (SIMS Code: 660517)

Those electing art history must complete at least 15 units from the 600- and 700-numbered courses to include Art 799A, selected in consultation with the art history adviser. Students may select up to 15 units of 500-level courses in art, 12 units of which must be in art history and approved by the graduate adviser. The additional three units must be selected in consultation with the graduate adviser, to include Art 578 and 593 if these courses are not already completed. 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 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 creative artwork accompanied by a written report. Written reports accepted in satisfaction of a requirement for the master's degree are cataloged and maintained in the SDSU library. A softbound copy of the report accompanying a master's thesis exhibition must be provided by the candidate and will be retained in the School of Art and Design graduate advising office.

Courses Acceptable for Master's Degree Programs in Art (ART)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

**UPPER DIVISION COURSES**

**ART 500. Advanced Drawing (3)**

Six hours.

Prerequisite: Art 102, 203, 204, 210, 343, or 406.

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

**ART 502. Inter-Media (1-3)**

Two hours for each unit of credit.

Prerequisites: Upper division standing and consent of instructor.

Process and materials in plane and space. Maximum credit six units. M.F.A. students: Maximum credit six units applicable to the M.A. degree; nine units applicable to the M.F.A. degree.

**ART 503. Life Drawing and Painting III (3)**

Six hours.

Prerequisites: Art 204 and 403.

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

**ART 504. Painting III (3)**

Six hours.

Prerequisite: Art 404.

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

**ART 506. Contemporary Issues (3)**

Prerequisite: Upper division standing.

Art and design issues relevant to contemporary global society. Sources of inspiration in art and design practice and topical issues examined. Field trips.

**ART 511. Advanced Lithography (3)**

Six hours.

Prerequisite: Art 411.

Advanced creative lithography printmaking in color. Emphasis on fine print quality in color process and color technology unique to this medium. Maximum credit six units.
ART 516. Sculpture III (3)
Six hours.
Prerequisite: Art 416.
Advanced level investigations into sculptural ideas, processes, and materials. Maximum credit six units.

ART 517. Figurative Sculpture II (3)
Six hours.
Prerequisite: Art 216.
Figurative study with emphasis on individual exploration. Maximum credit six units.

ART 523. Furniture Design and Woodworking III (3)
Six hours.
Prerequisites: Six units of Art 423.
Advanced individual design: Exploration of materials, process and function. Continued focus on development of personal design statements and specialized techniques. Maximum credit six units.

ART 524. Digital Fabrication for Art and Design (3)
Six hours.
Prerequisite: A 300- or 400-level art or design course.
Design, visualization, and fabrication processes utilizing modeling and machining software. Basic techniques in computer-aided design (CAD) and computer-aided manufacturing (CAM). Small-scale production techniques and outsourcing for artists and designers. Maximum credit six units.

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

ART 528. 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.

ART 531. Jewelry and Metals IIIA-Jewelry (3)
Six hours.
Prerequisite: Art 431.
Problems involving fabrication processes already studied in order to increase technical competence while exploring personal design statements; specialized techniques such as photoetching and electroforming. Maximum credit six units.

ART 532. Jewelry and Metals IIIB-Metalsmithing (3)
Six hours.
Prerequisite: Art 432.
Advanced problems involving metal processes to increase technical competence while exploring personal design statements. Maximum credit six units.

ART 535. Fiber Construction II (3)
Six hours.
Prerequisite: Art 435.
Advanced study in nonloom techniques. Techniques to include:looping, braiding, plaiting, and special fabricating techniques. Experimentation with new man-made fibers and with synthetic commercial dyes. Maximum credit six units.

ART 536. Fiber Surface Design II (3)
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.

ART 540. Advanced Photographic Projects (3)
Six hours.
Prerequisites: Grade of C (2.0) or better in Art 440, or Art 340 and 407.
Visual and creative expression using photographic media, including traditional and digital processes. Emphasis on conceptual project development and portfolio. Maximum credit six units with consent of instructor.

ART 541. Graphic Design IV (3)
Six hours.
Prerequisites: Grade of C (2.0) or better in two of the following: Art 441, 442, 450, 454. Proof of completion of prerequisites required: Copy of transcript. Strategy, planning, and problem solving related to visual communication systems with emphasis on social and cultural context.

ART 542. Typography IV (3)
Six hours.
Prerequisite: Grade of C (2.0) or better in Art 442. Proof of completion of prerequisite required: Copy of transcript. Individual creative and scholarly research in typography, conceptual and contextual exploration, typographic experimentation based on theory, strategy, and problem solving. Maximum credit six units with consent of instructor.

ART 543. Illustration III (3)
Six hours.
Prerequisite: Grade of C (2.0) or better in Art 443.
Strategy and problem solving of professional illustration as related to art and design; individual conceptual and contextual exploration. Maximum credit six units.

ART 544. Emerging Technologies in Multimedia (3)
Six hours.
Prerequisite: Grade of C (2.0) or better in Art 344, or 348, or 440, or 448, or 540.
Advanced creative studies in emerging electronic communications, including cyberstudios, Internet and multimedia. Exploration in collaborative, interdisciplinary, and international projects. Maximum credit six units with consent of instructor.

ART 545. Design Studio (3)
Six hours.
Prerequisites: Grade of C (2.0) or better in two of the following: Art 441, 442, 450, 454, 540, and portfolio review. Proof of completion of prerequisites required: Copy of transcript. Solutions to design problems for clients in a studio environment including business procedures and production management. Development of a professional level portfolio. Maximum credit six units with consent of instructor.

ART 546. Advanced Book Arts (3)
Prerequisite: Art 446.
Design and creation of limited edition artist books and independent projects made with mixed media and hand printing techniques such as letterpress, intaglio, woodcut, lithography, photography, and experimental media. Maximum credit six units.

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

ART 552. Work Environment Interior Design (3)
Six hours.
Prerequisite: Art 453.
Projects in architectural interiors involving the use and perception of enclosed spaces. Space planning systems analysis. Maximum credit six units.

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

ART 557. Nineteenth Century European Art (3)
Prerequisite: Art 259.
Development of painting, sculpture, and architecture from the French Revolution to 1900.

ART 558. Twentieth Century European Art to 1945 (3)
Prerequisite: Art 259.
Major developments in the visual arts and art criticism from 1880 to 1945 (Post-Impressionism through Surrealism).
ART 559. Twentieth Century European and American Art Since 1945 (3)
Prerequisite: Art 259.
Major developments in the visual arts and art criticism since 1945.

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

ART 561. Mesoamerican Art: Olmecs to Aztecs (3)
Prerequisite: Art 259.
Art and architecture of Mesoamerica from Olmecs to Aztecs. Role of art as transmitter of cultural information and world view. Continuities and ideologies that characterize Mesoamerican civilizations. Field trips required.

ART 564. Art of China (3)
Prerequisite: Art 258 or 259 or 263.
History of Chinese art from prehistoric times through the Ching Dynasty.

ART 565. Art of Japan (3)
Prerequisite: Art 258 or 259 or 263.
History of Japanese art from prehistoric times to the Meiji Restoration.

ART 566. History of Japanese Painting Tenth to Twentieth Centuries (3)
Prerequisite: Art 258 or 259 or 263.
History of Japanese painting from tenth to twentieth centuries, emphasizing art from three social groups: aristocrats, warriors, and merchants. Analysis of motifs, iconography, and styles of art schools developed during these periods, reinforced by social history.

ART 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.

ART 571B. Contemporary Art of Latin America (3)
Prerequisites: Art 258 and 259.
Work created by leading contemporary Latin American artists from 1960 to present. Field trips required.

ART 573A. Italian Art of the Fourteenth and Fifteenth Centuries (3)
Prerequisite: Art 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.

ART 573B. Italian Art in the Sixteenth Century (3)
Prerequisite: Art 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.

ART 575. European Art from 1600 to 1750 (3)
Prerequisite: Art 259.
Architecture, sculpture, and painting of the Baroque and Rococo periods.

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

ART 578. Seminar in History of Museums and Exhibitions (3)
Prerequisite: At least one course selected from Art 557, 559, or 560.
Origin, history, and function of the museum. Theories of collecting, museums, and construction of knowledge. Role of elites in formation and construction of museums, controversial exhibitions, exhibitionary practices, and globalization.

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

ART 593. History and Methodology of Art History (3)
Prerequisite: Twelve units of upper division art history. Readings and discussions on the historiography of art and on modern methodologies for art historical research.

ART 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

GRADUATE COURSES

ART 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.

ART 604. Painting (3)
Six hours.
Prerequisite: Art 504.
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.

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.

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.

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

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.

ART 627. Advanced Clay and Glaze Technology in Ceramic Design (3)
Six hours.
Prerequisites: Art 525 or 526.
Experimentation with use of ceramic material and techniques as an integral part of design process. Maximum credit six units applicable to the M.A. degree; nine units applicable to the M.F.A. degree in art.

ART 631. Jewelry and Metalwork (3)
Six Hours.
Prerequisite: Art 531 or 532.
Problems in design and execution of works in precious metals. Projects will be determined by individual student and instructor. Maximum credit six units applicable to the M.A. degree; nine units applicable to the M.F.A. degree in art.

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.
ART 642. Typography (3)
Six hours.
Prerequisite: Art 542.
Advanced creative and scholarly research in typography for visual expression and communication; typographic experimentation based on theory, strategy, and problem solving. Maximum credit six units applicable to the M.A. degree; nine units applicable to the M.F.A. degree in art.

ART 644. Multimedia (3)
Six hours.
Prerequisite: Art 544.
Creative applications of interactive and time-based visual expression using contemporary multimedia formats. Maximum credit six units applicable to the M.A. degree; nine units applicable to the M.F.A. degree in art.

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.

ART 694. Seminar in Principles of Design in Space Arts (3)
Prerequisite: Art 559.
Activity of creative expression and aesthetic appreciation in area of visual experience. Aesthetic analysis of original works of art. Maximum credit six units applicable to the M.A. degree.

ART 696. Advanced Topics in Art (1-3)
Prerequisite: Consent of instructor.
Intensive study in specific areas of art and art history. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

ART 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 letter designation may be taken for a maximum six units applicable to the M.A. degree; nine units 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 Graphic Design
F. Studio Art in Environmental/Interior Design
I. Studio Art in Jewelry/Metals
J. Studio Art in Furniture
K. Studio Art in Multimedia

ART 716. Individual Research Problems in Sculpture (3)
Six hours.
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.

ART 760. Seminar in Twentieth Century Art (3)
Prerequisite: Art 589.
Visual arts and art criticism since 1900.

ART 791. Professional Practice (3) Cr/NC
Six hours.
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.

ART 792. Research in Professional Problems (3)
Methodologies pertinent to arts education in specific media. Open only to classified graduate students.

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

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

ART 799B. Thesis or Project Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP 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 Center for Asian and Pacific Studies
In the College of Arts and Letters

OFFICE: Arts and Letters 473
TELEPHONE: 619-594-0931 / FAX: 619-594-0257
E-MAIL: mbolthou@mail.sdsu.edu
http://asiapacific.sdsu.edu

Director of Program: Sandra A. Wawrytko, Ph.D.

Faculty Committee for Asian and Pacific Studies
Li An, Ph.D., Professor of Geography
Huma Ahmed Ghosh, Ph.D., Professor of Women’s Studies
Lei Guang, Ph.D., Professor of Political Science
Yoshiko Higurashi-Jensen, Ph.D., Professor of Japanese
Valerie O. Pang, Ph.D., Professor of Teacher Education
Eri P. Riley, Ph.D., Professor of Anthropology
Betty T.R. Samraj, Ph.D., Professor of Linguistics
Shaneshwar Timalsa, Ph.D., Professor of Religious Studies
Ming-Hsiang Tsou, Ph.D., Professor of Geography
Latha Varadarajan, Ph.D., Professor of Political Science
Sandra A. Wawrytko, Ph.D., Professor of Philosophy
Ruey-Jiuan Regina Wu, Ph.D., Professor of Linguistics and Asian/Middle Eastern Languages
Elena S. H. Yu, Ph.D., Professor of Public Health
Zheng-sheng Zhang, Ph.D., Professor of Chinese
Kathryn J. Edgerton-Tarpley, Ph.D., Associate Professor of History
Anh Nhuc Hua, Ph.D., Associate Professor of Women’s Studies
Ryu Kitajima, Ph.D., Associate Professor of Japanese
Mei Zhong, Ph.D., Associate Professor of Journalism and Media Studies
Yawen Li, Ph.D., Assistant Professor of Social Work

General Information
No new students are being admitted to this program. For further information, contact the Center for Asian and Pacific Studies.

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, Economics, Education, English and Comparative Literature, Geography, History, Linguistics and Asian/Middle Eastern Languages, Philosophy, Political Science, Religious Studies, and Sociology. It is administered by the Center for Asian and Pacific 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 and Pacific studies; (b) for those in a specific academic discipline who have regional interest in Asian and Pacific studies and wish to promote more effective understanding of the cultures, societies, peoples, and social forces at work in the Asian and Pacific world; and (c) for those who plan to pursue further graduate study in Asian and Pacific 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, as approved by the graduate committee of the Center for Asian and Pacific 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.

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.

All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the Center for Asian and Pacific Studies.

Graduate Admissions
The following materials should be submitted as a complete package directly to:
Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all post-secondary institutions attended;

NOTE:
- Students who attended SDSU need only submit transcripts for work completed since last attendance.
- Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

(2) GRE scores (http://www.ets.org SDSU institution code 4682);
(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

Center for Asian and Pacific Studies
The following materials should be mailed or delivered to:
Center for Asian and Pacific Studies
(Attention: Graduate Adviser)
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-6042

(1) Letters of reference (minimum 3);
(2) Personal statement;
(3) Writing sample of recent academic work.

Advancement to Candidacy
All students must satisfy the general requirements for advancement to candidacy as described in Part Four 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 adviser of the Center for Asian and Pacific Studies.
Specific Requirements for the Master of Arts Degree
(Major Code: 03011) (SIMS Code: 111101)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the Master of Arts degree, as described in Part Four of this bulletin, the student must complete a minimum of 30 units from courses acceptable for master's degree programs, including Asian Studies 799A. The remaining 27 units to be selected, with departmental approval, from the list of approved courses in Part Five of this bulletin. In addition, any other Asian-content courses may be applied with approval of the graduate adviser.

The total program may not include more than 15 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 Center for Asian and Pacific Studies.

Courses Acceptable for Master's Degree Program in Asian Studies (ASIAN)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

ASIAN 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

Anthropology Course (ANTH)

ANTH 582 Regional Anthropology (3)*
ECON 561 International Trade (3)
ECON 592 International Monetary Theory and Policy (3)

Geography Courses (GEOG)

GEOG 554 World Cities: Comparative Approaches to Urbanization (3)
GEOG 596 Advanced Topics in Geography (1-3)*

History Courses (HIST)

HIST 566 Chinese Civilization: The Great Traditions (3)
HIST 567 China in Revolution (3)
HIST 570 Japan in the Modern World (3)
HIST 596 Selected Studies in History (1-4)*

Philosophy Courses (PHIL)

PHIL 514 Philosophy of Art (3)*
PHIL 516 Non-Western Aesthetics (3)*
PHIL 565 Asian Philosophies (3)
PHIL 575 A Major Philosopher (3)*

Political Science Course (POL S)

POL S 575 International Relations of the Pacific Rim (3)

Religious Studies Courses (REL S)

REL S 581 Major Theme (3)*
REL S 583 Major Tradition (3)*

GRADUATE COURSES

ASIAN 797. Research (1-3) Cr/NC/RP
Research in one of the aspects of Asia Pacific studies. Maximum credit six units applicable to a master’s degree.

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

ASIAN 799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP 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 Course (ANTH)

ANTH 600 Seminar (3)*

Economics Course (ECON)

ECON 750 Seminar in History of Economic Thought (3)*

Finance Course (FIN)

FIN 654 Seminar in International Business Finance (3)*

Geography Courses (GEOG)

GEOG 701 Seminar in Development of Geographic Thought (3)*
GEOG 740 Seminar in Human Geography (3)*

History Courses (HIST)

HIST 601 Seminar in Historical Methods (3)
HIST 650 Directed Readings in Asian History (3)

Linguistics Course (LING)

LING 795 Seminar in Linguistics (3)*

Management Course (MGT)

MGT 723 Seminar in International Strategic Management (3)*

Marketing Course (MKTG)

MKTG 769 Seminar in International Marketing (3)*

Philosophy Course (PHIL)

PHIL 696 Seminar in Selected Topics (3)*

Political Science Courses (POL S)

POL S 655 Seminar in General Comparative Political Systems (3)*
POL S 658 Seminar in Post-Communist Political Systems (3)*
POL S 661 Seminar in the Political Systems of the Developing Nations (3)*
POL S 675 Seminar in International Relations (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.
Faculty

Eric L. Sandquist, Ph.D., Professor of Astronomy
Chair of Department
Jerome A. Orosz, Ph.D., Professor of Astronomy (Graduate Adviser)
Allen W. Shafer, Ph.D., Professor of Astronomy
William F. Welsh, Ph.D., Professor of Astronomy
Douglas C. Leonard, Ph.D., Associate Professor of Astronomy
Robert Quimby, Ph.D., Associate Professor of Astronomy
Kate Rubin, Ph.D., Assistant Professor of Astronomy

Associateships

Graduate teaching associateships in astronomy are available to a few qualified students. A limited number of graduate research assistantships are also available from the department or through faculty with funded research projects. Application for teaching associate or graduate research positions is done as part of the student's application for Admission to Graduate Study.

General Information

The Department of Astronomy 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 miles east of the campus at an elevation of 6,100 feet. The observatory houses three research telescopes: the new 1.25-m Phillips Claudio reflector, which began remote observations in 2015, a 1.0-m telescope, and a 0.6-m telescope. Each of these is available for faculty and student research. Instrumentation for these telescopes includes both optical and near-IR cameras, as well as optical spectrographs. A dormitory is available to house visiting astronomers and there is also a shop-laboratory building on site. The observatory also houses the 0.5-m Buller telescope, which features in our education and public outreach programs connected to the neighboring Awona Harrington Visitor Center.

The Department of Astronomy operates its own computer facilities for image processing of astronomical data. The department has access to more extensive campus computing facilities and to the San Diego Supercomputer Center.

Campus facilities include a fixed 12-inch reflecting telescope, ten portable 8-inch Meade LX200 Reflectors, and 20 smaller assorted portable reflecting telescopes. Two CCD cameras are also available. A Spitz AP3 planetarium is used for both student instruction and public outreach programs. The central campus library has a very extensive collection of astronomical texts and journals. In addition, the Special Collections section contains the world-renowned Zinner Collection of rare and historically important astronomical texts. The department also maintains a resource room of astronomical catalogs, charts, and selected reference texts.

Some of the research interests in the department include the structure and evolution of stars, eclipsing and interacting binary stars, the stellar content of nearby galaxies (as probed through observations of novae and low-mass x-ray binaries contained within these systems), exoplanets, and supernovae. Graduate students are extensively involved in many of these research programs. Students often make use of observatory facilities in support of their thesis 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 must have an overall grade point average of at least 2.85 in the last 60 units of their undergraduate work and must have preparation in astronomy and/or related sciences substantially equivalent to that required for the bachelor's degree in astronomy at San Diego State University.

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee. All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the Department of Astronomy.

Graduate Admissions

The following materials should be submitted as a complete package directly to:

Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;

NOTE:
- Students who attended SDSU need only submit transcripts for work completed since last attendance.
- Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

(2) GRE scores (http://www.ets.org SDSU institution code 4682);

(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

Department of Astronomy

The following materials should be mailed or delivered to:

Department of Astronomy
(Attention: Graduate Adviser)
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-1221

(1) Letters of reference (two or three);

(2) Personal statement;

(3) Application for teaching associate position or graduate assistantship (if desired).

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy as specified in Part Four of this bulletin. If the student's undergraduate preparation is deficient, he/she will be required to take courses for the removal of the deficiency. These courses are in addition to the minimum of 30 units for the master's degree.
Specific Requirements for the Master of Science Degree

(Major Code: 19111) (SiMS Code: 770501)

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

1. Complete the nine-unit core course curriculum (Astronomy 630, 660, 680).
2. Complete at least 18 additional units of 500-, 600-, 700-level in astronomy graduate level courses or approved 500-level courses in astronomy or related fields as approved by departmental graduate adviser; not to exceed 15 units of 500-level courses if pursuing Plan B.

OR

Plan B: Pass a final comprehensive examination covering the astronomy core curriculum and complete three additional units of graduate level or approved 500-level courses in astronomy or related fields with approval of department graduate adviser.

4. Facility with a scientific computing language is required.

Courses Acceptable for Master's Degree

Program in Astronomy (ASTR)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

ASTR 510. Exoplanets (3)
Prerequisites: Astronomy 350 and 440, or Physics 350 and 354 with minimum grade of B-, and consent of instructor.
Extrasolar planet detection; mass and radius determination; transits and eclipses; orbital dynamics and transit timing variations; internal and atmospheric characteristics; the exoplanet population and formation scenarios.

ASTR 596. Advanced Topics in Astronomy (2-3)
Prerequisite: Consent of instructor.
Selected topics in 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

GRADUATE COURSES

ASTR 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.

ASTR 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.

ASTR 630. Stellar Atmospheres and Interiors (3)
Prerequisites: Astronomy 440 and Mathematics 342A.
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.

ASTR 660. Galaxies and Cosmology (3)
Prerequisite: Astronomy 450.
Morphology, photometric, and spectroscopic properties, dynamics, and evolution of normal galaxies. Current interpretations of peculiar galaxies and QSO's. The extragalactic distance scale. Observational cosmology.

ASTR 680. Astronomical Techniques (3)
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.

ASTR 790A. Research Paper (3) Cr/NC/RP
Prerequisites: An officially appointed research project committee and advancement to candidacy.
Preparation of a scientific paper, based on original astronomical research, suitable for publication in a refereed astronomical journal.

ASTR 790B. Research Paper Extension (0) Cr/NC
Prerequisite: Prior registration in Astronomy 790A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP in Course 790A 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 research paper is granted final approval.

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

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

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

ASTR 799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP 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.
Audiology
In the School of Speech, Language, and Hearing Sciences
In the College of Health and Human Services

OFFICE: Speech, Language, and Hearing 221
TELEPHONE: 619-594-7746 / FAX: 619-594-7109
http://slhs.sdsu.edu/programs/aud

Interim Director of School: Tracy E. Love-Geffen, Ph.D.

Faculty
The following faculty members of the cooperating institutions participate in the Au.D. program. These faculty teach courses, provide clinical instruction, provide research experiences, or are available as members of joint doctoral committees and advisers for student doctoral projects.

San Diego State University:
Carol L. Mackersie, Ph.D., Professor of Speech, Language, and Hearing Sciences and Director of Program (Graduate Adviser)
Steven J. Kramer, Ph.D., Professor of Speech, Language, and Hearing Sciences
Peter Torre, III, Ph.D., Professor of Speech, Language, and Hearing Sciences
Laura Dreisbach Hawe, Ph.D., Associate Professor of Speech, Language, and Hearing Sciences

University of California, San Diego:
Director: Erika M. Zettner, Ph.D.
Faculty: Benitez, Guthrie, Harris, Nguyen, Ryan, Spriggs, Viirre, Wian

General Information
A professional doctorate in audiology (Au.D.) is offered jointly by San Diego State University (SDSU) and the University of California, San Diego (UCSD). The joint doctoral program in audiology is accredited by the Council on Academic Accreditation in Audiology and Speech-Language Pathology. The Au.D. program is a four-year graduate degree program designed for individuals who intend to specialize in clinical practice and to meet professional standards requiring a clinical doctorate as the entry-level degree for a licensed and ASHA certified audiologist. Graduates of this program will have the knowledge base, research exposure, and advanced clinical skills to enter the workforce in any setting, and will be prepared to function as independent audiology professionals in the expanding health care arena. The program encompasses academic, clinical, and research experiences in audiology and otology through the combined resources from the School of Speech, Language, and Hearing Sciences at SDSU and the Division of Surgery (Otolaryngology) in the School of Medicine at UCSD. An Au.D. provides the essential education, technical training, research, and creative experience necessary for professional activity, college-level teaching, and precepting.

Admission to the Au.D. Program
Students will apply to the Au.D. joint doctoral program through SDSU. It is expected that students will come into this program from a variety of different science backgrounds, including speech, language, and hearing sciences, biological and physical sciences, engineering, psychology, nursing, or a pre-med curriculum. Applicants for admission to the Au.D. program must meet the general requirements for admission to both universities with classified graduate standing as outlined in the respective catalogs. Applicants must also meet the special requirements of this program. These include (a) submission of scores on the GRE; (b) prerequisite completion of at least one course in statistics, one course in biological science, one course in physical science, one additional course in biological or physical science, two courses in behavioral/social sciences, and one course in American Sign Language. Deficiencies in these areas may be completed after admission to the program if approved by the admissions committee. Applicants must submit transcripts of all post-secondary coursework, three letters of recommendation from former or current professors, supervisors, or other appropriate persons able to judge their academic potential, and an applicant essay (statement of purpose) indicating their interests and strengths relative to their career objectives. Details of these requirements are available on the school’s website. Assuming that the requirements for admission outlined above have been met, each student admitted to the program will have a program adviser evaluate their preparation, career goals, and professional certification requirements.

Applicant files are reviewed as a group by an Admissions Committee composed of Au.D. program faculty from each campus. Other Au.D. program faculty may review files and make recommendations to the Admissions Committee. Given the limited number of spaces available (10-12 new admissions each year are anticipated, subject to available facilities), the Admissions Committee will select the best-qualified applicants to fill the available spaces. No minimum set of qualifications will guarantee an applicant admission to the program. The Admissions Committee will make recommendations for admission to the graduate deans from each campus.

Application. Students seeking admission to the Au.D. program should consult the school’s website for instructions and deadlines for applying. For additional information, write directly to the SDSU Au.D. Program Directors, School of Speech, Language, and Hearing Sciences (Mail Code 1518), San Diego State University, 5500 Campanile Dr., San Diego, CA 92182.

Students will be admitted to the Au.D. program only in the fall semester (first year is at SDSU). Applicants must complete two online applications (CSU Mentor Application and the program’s application) by the deadline posted on the SDSU Au.D. website (http://slhs.sdsu.edu) to be considered for the program beginning in the following fall semester. International students should submit materials at least two weeks earlier than other applicants.

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the application fee by the deadline provided on the school’s website (typically by December 15) at http://slhs.sdsu.edu. Indicate “Audiology (AuD)” as your Major/Program Objective. Indicate “Doctorate” as the Degree Objective. Students must also electronically submit the program’s online application by the posted deadline. See website for other required application materials.

Details of the admission process can be found on the School of Speech, Language, and Hearing Sciences website at http://slhs.sdsu.edu. All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the School of Speech, Language, and Hearing Sciences. Incomplete applications will not be reviewed.

Graduate Admissions
The following materials should be submitted as a complete package directly to:

Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

Doctoral Program

Student Admissions
Post Master’s Degree Admissions

Students admitted to the Au.D. program with a master's degree in audiology will be expected to complete the four-year Au.D. curriculum. However, some students may have had a master’s preparation in audiology in which some of the coursework was similar to some of the foundation courses in the Au.D. program. Upon entering the program, each individual will be assessed to determine competencies/knowledge in material that would put them on par with expectations for the Au.D. program. For some of the foundation core courses offered the first year at SDSU, e.g., Audiology 705, 710, 725, students may be given credit for the courses or be required to substitute a Doctoral Special Study (Audiology 798) course for one or more of these courses to ensure competencies or remediate deficiencies if approved by the program faculty. Credit for some of the first year clinic units may also be approved based on work experience; however, a full-complement of expected clinical skills must be demonstrated.

Specific Requirements for the Au.D. Degree

(Major Code: 12202) (SIMS Code: 550919)

Upon admission to the program, each student will be assigned a faculty adviser. The faculty adviser will help the student select a program of study to meet all program requirements. The Au.D. program is a four-year program, including summer semesters. An exact unit minimum is unspecified due to the mixing of semester units (SDSU) and quarter units (UCSD) and differences in clinical hours at different settings; however, the program is approximately 134 semester-equivalent course units. All students in the Au.D. program will fulfill the following requirements. Any alternative method of fulfilling these requirements requires advanced written permission from the program directors.

Policy on English Competency for Students in the SDSU/UCSD Au.D. Joint Doctoral Program. The academic and clinical components of the Au.D. program are based on proficiency (understanding and use) of English, in oral and written forms. Incoming students will have an assessment of their English proficiency during an advising appointment in the first week of the program. This is accomplished through dialogue with the student and, if indicated, reading a short paragraph, and/or writing a short paragraph. For students who have problems with oral or written English proficiency, the adviser will arrange a meeting with the program director and clinic director to discuss a plan of action to improve English proficiency. In some cases, this may delay progress in the program.

Residency Requirements. After formal admission to the Au.D. program, the student must complete a minimum of course hours that is equivalent to one year’s full-time enrollment at each campus. The definition of residence must be in accord with the regulations of San Diego State University and the University of California, San Diego. The program is designed to be shared between the two campuses. The first year is entirely at SDSU, and the second and third years is primarily at SDSU, but should include some options at UCSD. The fourth year of the program is a full-time clinical externship at a program-approved clinic agency/site. Both campuses will share in the academic, clinic, and research components of the program.

Course Requirements. The program for each student will consist of 14 core courses, half of which are to be taken at each campus, and 14 elective courses, with a minimum of four to be taken at each campus. The student's faculty adviser must approve all courses.

A student who earns less than a 3.0 grade point average in academic and/or clinical coursework in any given term will be placed on academic probation for the next term. If, at the end of the probationary term, the student fails to achieve a 3.0 grade point average in academic and/or clinical coursework, the student will be subject to disqualification from the program. See the Au.D. student handbook on the program's website regarding performance and disqualification policies.

Clinical Requirements. Each student will progress through a variety of clinical experiences involving patient assessment and management throughout their program of study. Clinic experiences will require concurrent enrollment in clinic courses appropriate for the campus in which they are doing the clinical work. These precepted clinical experiences are completed in the SDSU Audiology Clinic, UCSD Otology/Audiology Clinic, and in community field sites. Clinic courses require adviser approval prior to enrollment. Students must maintain an average grade of B or better to pass clinic courses. Students are assessed across the following clinical skill categories:

1) professionalism; 2) patient interaction; 3) evaluation; 4) treatment; 5) documentation. Prior to the fourth year, each student will complete approximately 700 hours of clinic experience.

Preceptorship in Otology. All students will have at least one quarter of a clinical rotation with otology staff associated with UCSD. Students will accompany one of the otology faculty during their clinics and receive training in one or more of the following areas: clinical otology, pre-and post-operative assessment of patients, pharmacology related to otology, design and implementation of clinical trials with balance disorders.

Clinical Staffings. In addition, all students will be required to regularly participate in formal clinical case study/staffing experiences. At SDSU, these clinical staffings include student and faculty presentations and discussions of interesting cases seen in their clinics. At UCSD, these staffings include the Chairman’s Conference, where Au.D. students/residents and medical staff discuss otological problem cases and disorders, and the Neurotology Conference, where UCSD and community physicians, and students/residents discuss cases dealing with neurological diseases and vestibular disorders.

Fourth Year Externship. The fourth year externship is a full time clinical experience in an approved agency/site. These externships may require a competitive interview process by the agency.
Externship sites may be in other parts of the country. All students in their fourth year externship must also enroll in the on-line clinical seminar at SDSU each semester.

Examinations. All students in the program will be evaluated at the following levels:

1. First Year Evaluation: Students must have achieved a 3.0 cumulative grade point average for core and elective courses during the first year and have appropriate clinical skills. The student's ability to integrate the academic and clinic procedures appropriate for the end of the first year will be assessed through a First Year Qualifying Examination. The First Year Qualifying Examination may be repeated once following additional directed study by the student's adviser. Students must pass the First Year Examination in order to enroll in second year courses.

2. Second Year Evaluation: Students must have achieved a cumulative grade point average of 3.0 for core and elective courses, and have appropriate clinical skills. The student's ability to integrate the academic and clinic procedures appropriate for the end of the second year will be assessed through a Second Year Qualifying Examination. The Second Year Qualifying Examination may be repeated once following additional directed study by the student's adviser. Students must pass the Second Year Evaluation in order to enroll in third year courses.

3. Comprehensive Examination: By the end of the third year, and after Advancement to Candidacy (see below), the student will take a written Comprehensive Examination. Students may not enroll in externship until passing the Comprehensive Examination.

Advancement to Candidacy. Candidates will be recommended for Advancement to Candidacy after successfully completing all course and clinic requirements for Year 1 and Year 2 (with a minimum grade point average of 3.0), satisfactory performance on the first and second Year Qualifying Examinations, and approval of the doctoral project proposal. Students cannot enroll in the doctoral project course, take the comprehensive examination, or register for their externship until advanced to candidacy. The program's Executive Committee recommends students eligible for advancement to candidacy to the graduate deans of both institutions.

Doctoral Project. Each student will complete an innovative doctoral project. The doctoral project will consist of a research-based investigation. Each student will select a Doctoral Project Committee comprised of two Au.D. program faculty (one from each campus) and at least one additional tenured faculty member from either campus external to the program. The chair of the committee can be from either campus. The Executive Committee will approve each student’s Doctoral Project Committee. All doctoral projects will be written in a format approved by the student's Doctoral Project Committee. The student’s final written document will be approved by the student’s Doctoral Project Committee and presented in a forum open to all faculty and students. Each student will enroll in two sections of the appropriate doctoral project course depending on the campus in which their committee chair resides. Students enrolling in AUD 299 at UCSD must also enroll at SDSU in a program course or three units of AUD 897.

Award of the Degree. The Doctor of Audiology (Au.D.) degree 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

Funding for graduate students cannot be guaranteed, although every effort will be made to provide some financial support for as many students as possible, through graduate/teaching assistantships, research grants, clinical traineeships, and/or scholarships. Financial support will be awarded consistent with the policies of the two universities. Tuition and fees will be charged in accordance with the extant policies at the campus in which the student is matriculated in a given year.

Courses Acceptable for Au.D. Degree

Program in the School of Speech, Language, and Hearing Sciences (AUD)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

GRADUATE COURSES

AUD 696. Selected Topics in Audiology (1-3)
Prerequisite: Graduate standing. Intensive study in specific areas of audiology. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

AUD 700. Hearing Science (3)
Prerequisite: Admission to doctoral program. Nature of sound and applications to hearing and speech, including acoustics, structure, and function of auditory system, and perception of sound.

AUD 701. Clinical Practice I (1-3)
One unit represents three hours per week. Prerequisites: Credit or concurrent registration in Audiology 705 and 710. Applications of clinical procedures to patient assessment. Includes computer-based simulated cases, clinical observations, and supervised patient care involving diagnostics and hearing aid evaluations at the on-campus audiology clinic. May be repeated.

AUD 702. Clinical Methods Lab (1)
Two hours of activity. Prerequisite: Concurrent registration in Audiology 701. Practice in tests and methods used in audiological clinical practicum. May be repeated. Maximum credit three units.

AUD 705. Diagnostic Audiology I (3)
Two lectures and two hours of activity. Prerequisite: Admission to doctoral program. Theoretical bases and technical experience necessary to perform basic audiologic assessment, including otoscopy, pure-tone, masking, speech, and immittance measures, testing and patient counseling. Hands-on experiences with different tests and equipment.

AUD 710. Hearing Amplification I (4)
Three lectures and two hours of activity. Prerequisite: Admission to doctoral program. Hearing aid components and signal processing, electroacoustic analysis, prescriptive techniques, verification procedures, hearing aid orientation, follow-up and troubleshooting.

AUD 712. Research and Evidence-Based Practice in Audiology (3)
Prerequisite: Admission to the doctoral program. Research methods and scientific writing in audiology/hearing science; critical evaluation of research; evidence-based practice in audiology; research proposal development.

AUD 715. Diagnostic Audiology II (3)
Two lectures and two hours of activity. Prerequisite: Audiology 705. Advanced procedures, including video-otoscopy, cerumen management, multiple component tympanometry, tests for 8th nerve, non-organic, and central involvement, and calibration. Principles and procedures for otoacoustic emission measurements (OAEs). Pathologies as they relate to audiologic measures.

AUD 720. Auditory Evoked Potentials I (4)
Prerequisites: Audiology 700 and 705. Theoretical and clinical aspects of auditory evoked potentials, specifically otoacoustic emissions and their measurement, electrocochleography, and auditory brainstem responses.

AUD 721. Clinical Case Studies and Staffings I (1)
Prerequisite: Concurrent registration in Audiology 701. Presentations and discussion of clinical cases and issues relative to clinical practice. Students' clinical experiences are discussed relative to medical and audiological assessment and management.
AUD 725. Pediatric Audiology (3)
Prerequisites: Audiology 700 and 705.
Development of normal and abnormal auditory behavior, behavioral and physiological testing of infants and children, hearing screening for pre-and school-age children, educational audiology, auditory processing disorders, counseling of patient and family, and assistive listening devices.

AUD 795. Research Practicum (3) Cr/NC
Prerequisites: Admission to doctoral program and consent of instructor.
Participation in specific faculty research activities. Research methods and objectives of a specific research laboratory. Data collection and analysis.

AUD 798. Doctoral Special Studies (1-3) Cr/NC
Prerequisites: Admission to doctoral program and consent of instructor.
Individual study in field of specialization.

DOCTORAL COURSES

AUD 800. Instrumentation in Audiology/Hearing Science (3)
Two lectures and two hours of activity.
Prerequisites: Audiology 710 and 720.
Advanced concepts and hands-on experiences with different audiological instruments to improve diagnostic skills in behavioral and physiologic tests. Calibration techniques and instrumentation. Critical thinking, reasoning, and problem-solving skills pertaining to equipment use and testing parameters.

AUD 801. Clinical Practice II (1-2)
One unit represents three hours per week.
Prerequisites: Open to third year doctoral students and consent of instructor.
Diagnostics and hearing aid evaluations/fittings in the on-campus audiology clinic. May be repeated. Maximum credit three units.

AUD 802. Clinical Precepting in Audiology (1)
Prerequisite: Audiology 701.
Effective precepting, determining appropriate teaching styles to maximize clinical learning, including timely and positive feedback regarding clinical progress and assigning grades. Identifying need for remediation and developing effective programs to target deficient skills. May be repeated. Maximum credit three units.

AUD 810. Seminar in Amplification Research and Technology (2)
Prerequisite: Audiology 701.
Amplification, advances in hearing aid analysis, selection and verification techniques, advanced hearing aid signal processing strategies, programmable and digital technology, sensory aids for special applications.

AUD 815. Communication Disorders Across Lifespan and Cultures (2)
Communication processes and disorders from infancy to elderly, including phonetics, phonology, speech, and language. Prepares audiologists to recognize a variety of communication disorders, and to learn how to apply screening instruments, in culturally sensitive ways, and to make appropriate referrals.

AUD 830. Seminar in Contemporary Topics in Audiology and Hearing Science (1)
Prerequisite: Open to third year doctoral students.
Audiology and hearing science. Reading and critiquing journal articles and data emerging from research laboratories.

AUD 831. Field Clinical Practice (3-6)
One unit represents four hours per week.
Prerequisites: Open to third year doctoral students and consent of instructor.
Supervised practicum in one or more approved community agencies. May be repeated.

AUD 835. Psychoacoustics (3)
Prerequisite: Admission to doctoral program.
Psychophysical concepts underlying clinical audiology. Psychoacoustic abilities of individuals with normal hearing and sensorineural hearing loss. Practical experience in conducting psychoacoustic tests.

AUD 840. Auditory Evoked Potentials II (2)
Prerequisite: Audiology 720.
Advanced techniques in measurement of otoacoustic emissions and later auditory evoked potentials. Otoacoustic emission level dependence, group delay, and suppression; middle latency and steady-state responses, cortical auditory evoked potentials (N1-P2), and auditory event-related potentials (MMN, P3).

AUD 845. Hearing Conservation (2)
Prerequisites: Audiology 700 and 705.
Hearing conservation programs in various settings. Current research on occupational noise exposure and hearing loss and workers’ compensation coverage of hearing loss.

AUD 871. Externship in Audiology (10)
Prerequisite: Advancement to candidacy.
Full-time clinical externship at approved agency. Continuation and intensification of clinical experiences with reduced amount of direct supervision culminating in ability to work independently. Maximum credit 30 units.

AUD 891. On-Line Integrative Clinical Seminar (2)
Prerequisites: Advancement to candidacy and consent of adviser.
On-line discussion of clinical experiences and interesting cases. Maximum credit six units.

AUD 897. Independent Research (1-3) Cr/NC/RP
Prerequisite: Consent of adviser.
Research in audiology or hearing science. Maximum credit three units applicable to the audiology degree.

AUD 899. Doctoral Project (1-3) Cr/NC/RP
Prerequisites: Audiology 712 and advancement to candidacy.
Individual investigation and preparation of the doctoral project for the audiology degree.
Bioinformatics and Medical Informatics  
In the College of Sciences

OFFICE: Geology/Mathematics/Computer Science 625  
TELEPHONE: 619-594-4573  
E-MAIL: faramarz@mail.sdsu.edu

Associated Faculty
Faramarz Valaifar, Ph.D., Professor of Computer Science, Director of Bioinformatics and Medical Informatics  
Andrew J. Bohonak, Ph.D., Professor of Biology and Assistant Dean of the Division of Graduate Affairs  
Nader Amir, Ph.D., Professor of Psychology  
Stephanie K. Brodine, M.D., Professor of Public Health  
Kelly S. Doran, Ph.D., Professor of Biology  
Robert A. Edwards, Ph.D., Professor of Computer Science  
Willa L. Fields, D.N.Sc., Professor of Nursing  
Scott T. Kelley, Ph.D., Professor of Biology  
Sunil Kumar, Ph.D., Professor of Electrical and Computer Engineering  
Richard A. Levine, Ph.D., Professor of Statistics  
Hala N. Madanat, Ph.D., Professor and Director of School of Public Health  
Georg E. Matt, Ph.D., Professor and Chair of Psychology  
Kathleen L. McGuire, Ph.D., Professor of Biology  
Robert Metzger, Ph.D., Professor of Chemistry, Emeritus  
Chunting C. Mi, Ph.D., Professor and Chair of Electrical and Computer Engineering  
Ralph-Axel Müller, Ph.D., Professor of Physics  
Claire Murphy, Ph.D., Professor of Psychology  
Thomas E. Novotny, Ph.D., Professor of Public Health, Emeritus  
Yusuf Ozturk, Ph.D., Professor of Electrical and Computer Engineering  
Usama Sinha, Ph.D., Professor of Engineering  
Mark A. Sussman, Ph.D., Albert W. Johnson Distinguished Professor of Biology  
Gregory A. Talavera, M.D., Professor of Public Health  
Mahmoud Tarokh, Ph.D., Professor of Computer Science  
Elizabeth R. Waters, Ph.D., Professor of Biology  
Tao Xie, Ph.D., Professor of Computer Science  
Robert W. Zeller, Ph.D., Professor of Biology  
Ashkan Ashrafi, Ph.D., Associate Professor of Electrical and Computer Engineering  
Jong-Deuk Baek, Ph.D., Associate Professor of Public Health  
Barbara Ann Bailey, Ph.D., Associate Professor of Statistics  
B. Mikael Bergdahl, Ph.D., Associate Professor of Chemistry and Biochemistry  
Elizabeth A. Dinsdale, Ph.D., Associate Professor of Biology  
Susan M. Kiene, Ph.D., Associate Professor of Public Health  
Chih-Dean Lin, Ph.D., Associate Professor of Statistics  
John J. Love, Ph.D., Associate Professor of Chemistry and Biochemistry  
Ksenija Marinkovic, Ph.D., Associate Professor of Psychology  
Mahawseta Sarkar, Ph.D., Associate Professor of Electrical and Computer Engineering  
Xiaoai Liu, Ph.D., Assistant Professor of Computer Science  
Wei Wang, Ph.D., Assistant Professor of Computer Science  
Jillian L. Wiggins, Ph.D., Assistant Professor of Psychology

Adjunct Faculty
University of California, San Diego:  
Antonino Catanzaro, M.D., Professor of Pulmonary Health  
Lucila Ohno-Machado, M.D., Ph.D., Professor of Medicine  
Gerard Hardiman, Ph.D., Associate Professor of Medicine  
Timothy Rodwell, M.D., Ph.D., M.P.H., Associate Professor of Pulmonary Health  
Hyeon-Eui Kim, Ph.D., M.P.H., R.N., Assistant Professor of Biomedical Informatics  
Christopher H. Woelk, Ph.D., Assistant Professor of Biomedical Informatics  
Siamak Yousefi, Ph.D., Assistant Project Scientist, Shiley Eye Institute  

University of California, Los Angeles:  
Neerja Jamshidi, M.D., Ph.D., Diagnostic Radiology  

Public Health Agency of Sweden:  
Sven Hoffner, Ph.D., Karolinska Institute  

La Jolla Institute for Allergy and Immunology:  
Bjorn Peters, Ph.D., Center for Infectious Disease  
Anjana Rao, Ph.D., Signaling and Gene Expression Research  

VA Hospital:  
Alan Calvitti, Ph.D., System Biology  

West Wireless Health Institute:  
Hassan Ghazemzadeh, Ph.D., Research Engineering Group

General Information
Bioinformatics and Medical Informatics (BIOI) are multidisciplinary fields at the intersection of computing and informatics, mathematics and statistics, biology, chemistry, and engineering.  
The explosion in genomic information and in the elucidation of pathways of various types has created an unprecedented, but largely unmet, need for professionals with a working knowledge of the biological sciences and computing/statistical methods.  
The shortage, which is especially severe in the biotechnology and pharmaceutical industries, has been documented by various studies and discussed in the press.  
We can also observe a comparable demand in hospital and other clinical settings as the impact of new technologies spreads into clinical research and medical practice.  
Research and development (R&D) in BIOI can be categorized into one of three branches.  
The first branch is the algorithm development branch in which R&D specialists use mathematical and engineering techniques to develop new, more efficient, and/or more accurate methods to mine biological or clinical data.  
The second branch falls within the software engineering paradigm and primarily focuses on R&D in human-computer interface.  
The third branch seeks to find answers to specific biological or medical questions including drug development or working to uncover the underlying mechanisms involved in specific biological systems or specific diseases.  
In the first year of the program, students in consultation with their graduate adviser will take basic courses within two of the following four disciplines: biology, chemistry, computer science, and mathematics/statistics.  

For specialization in the algorithm development branch, students can choose courses and projects in areas such as statistics, data mining, pattern recognition, artificial intelligence, search strategies, network architecture, digital image processing and advance imaging, modeling, decisions systems design, and analytical studies in various biological and clinical specializations.  
For specialization in the human-computer interface branch, students can choose courses and projects in areas such as principals of software design, human
Beginning in the professional science master concentration preparing students for academic setting or continuation in a Ph.D. program.

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 the Graduate Bulletin, a student must satisfy the following requirements before being considered for recommendation to enter the masters program.

1. Meet the requirements deemed equivalent to a baccalaureate degree in biology, chemistry, computer science, mathematics, statistics, or a field in engineering.
2. Meet BIOMI program's expectations on the GRE General Test.
3. Be considered as capable of graduate work in bioinformatics or medical informatics by at least two references who have submitted letters to the BIOMI program director.

Students applying for admission should electronically submit the university application available at [http://www.calstate.edu/apply](http://www.calstate.edu/apply) along with the $55 application fee.

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. Conditions may include satisfactory passing of certain undergraduate courses. These courses will be in addition to the minimum of 33-38 units required for the program.

Graduate Admissions
All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the Bioinformatics and Medical Informatics program.

The following materials should be submitted as a complete package directly to:

Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

1. Official transcripts (in sealed envelopes) from all postsecondary institutions attended;
   NOTE:
   • Students who attended SDSU need only submit transcripts for work completed since last attendance.
   • Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.
2. GRE scores (http://www.ets.org SDSU institution code 4682);
3. English language score, if medium of instruction was a language other than English (http://www.ets.org SDSU institution code 4682).

Master of Science Degree in Bioinformatics and Medical Informatics
The following materials should be mailed or delivered to:

Bioinformatics and Medical Informatics (BIOMI) Graduate Program
(Attention: Graduate Adviser)
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-7720

1. Two letters of recommendation (in sealed and signed envelopes) from persons in a position to judge academic ability.
2. Personal statement of motivating interest for the program; also briefly describe research interests and educational and professional goals.

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

Specific Requirements for the Master of Science Degree
(Major Code: 07994) (SIMS Code: 771490)
In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Four of this bulletin, the student must complete a program of study totaling 38 units for the concentration in professional science master and 33 units for the master of science as described below:

1. Complete 12 units of required core courses.
   BIOMI 568/
   BIOL 568  Bioinformatics (3)
   BIOMI 600/ Methods in Bioinformatics, Medical Informatics, Medical Imaging (3)
   CS 600  and Cheminformatics (3)
   BIOL 510  Molecular Evolution (3)
   CHEM 560  General Biochemistry (3)
2. Complementary: Nine units in a field complementary to the student's background with approval of the graduate coordinator selected from the following courses.
   CHEM 567  Biochemistry Laboratory (3)
   CS 514  Database Theory and Implementation (3)
   CS 520  Advanced Programming Languages (3)
   CS 535  Object-Oriented Programming and Design (3)
   CS 605 or Scientific Computing (3)
   COMP 605
   STAT 551A  Probability and Mathematical Statistics (3)
   STAT 551B  Probability and Mathematical Statistics (3)
3. Electives: Six units of approved 500-, 600-, or 700-level electives in disciplines related to the student's specialization with approval of the graduate coordinator.
4. Six units of research including Thesis:
   BIOMI 797  Research (3) Cr/NC/RP
   BIOMI 799A  Thesis or Project (3) Cr/NC/RP

Professional Science Master Concentration
(Major Code: 07994) (SIMS Code: 771489)

1. Complete 12 units of required core courses.
   BIOMI 568/
   BIOL 568  Bioinformatics (3)
   BIOMI 600/ Methods in Bioinformatics, Medical Informatics, Medical Imaging (3)
   CS 600  and Cheminformatics (3)
   BIOL 510  Molecular Evolution (3)
   CHEM 560  General Biochemistry (3)
2. Complementary: Twelve units in a field complementary to the student's background with approval of the graduate coordinator selected from the following courses.
   - CHEM 567  Biochemistry Laboratory (3)
   - CS 514  Database Theory and Implementation (3)
   - CS 520  Advanced Programming Languages (3)
   - CS 535  Object-Oriented Programming and Design (3)
   - CS 605 or COMP 605  Scientific Computing (3)
   - STAT 551A  Probability and Mathematical Statistics (3)
   - STAT 551B  Probability and Mathematical Statistics (3)

3. Electives: Nine units of approved 500-, 600-, or 700-level electives in disciplines related to the student's specialization with approval of the graduate coordinator.

4. Five units of research including Thesis:
   - BIOMI 797  Research (2) Cr/NC/RP
   - BIOMI 798  Special Study (2) Cr/NC/RP
   - BIOMI 799A  Thesis or Project 799 (3) Cr/NC/RP

Courses Acceptable for Master's Degree Program in Bioinformatics and Medical Informatics (BIOMI)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

BIOMI 568. Bioinformatics (3)  
(Same course as Biology 568)
Two lectures and three hours of laboratory.
Prerequisite: Biology 366.
Bioinformatics analysis methods and programming skills. Practical bioinformatic software for sequence analysis, bioinformatic algorithms and programming fundamentals.

BIOMI 596. Special Topics in Bioinformatics and Medical Informatics (1-4)
Prerequisite: Consent of instructor.
Advanced selected topics in bioinformatics and medical informatics. 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. Credit for 596 applicable to a master's degree with approval of the graduate adviser.

GRADUATE COURSES

BIOMI 600. Methods in Bioinformatics, Medical Informatics, and Cheminformatics (3)
(Same course as Computer Science 600)
Prerequisites: Three units of calculus and graduate standing. Computer, mathematical, and engineering techniques for bioinformatics, cheminformatics, and medical informatics. Techniques used in microarray data analysis, gene and protein sequence alignment, and classification techniques in medical decision making.

BIOMI 609. Computational Genomics and Bioinformatics (3)
(Same course as Computer Science 609)
Prerequisite: Computer Science 503 or 514.
Biological and genomic data. Application of computational algorithms to biological questions. Post-genomic techniques in annotation and comparison of microbial and eukaryotic genome sequences.

BIOMI 696. Advanced Topics in Bioinformatics and Medical Informatics (1-3)
Prerequisite: Graduate standing in bioinformatics and medical informatics or consent of instructor.
Recent technological developments and scientific breakthroughs that have a changing effect on the field of biomedical informatics. May be repeated with new content. See Class Schedule for specific content. Credit for 696 applicable to a master's degree with approval of the graduate adviser.

BIOMI 796. Selected Topics in Bioinformatics and Medical Informatics (1-3)
Prerequisite: Graduate standing in bioinformatics and medical informatics or consent of instructor.
Intensive study in specific areas of biological or medical informatics. In-depth investigation of specific challenges in the field as well as introduction to current and emerging technologies. May be repeated with new content. See Class Schedule for specific content. Credit for 796 applicable to a master's degree with approval of the graduate adviser.

BIOMI 797. Research (1-3) Cr/NC/RP
Prerequisite: Consent of instructor.
Research in one of the fields of bioinformatics and medical informatics. Maximum credit six units applicable to a master's degree.

BIOMI 798. Special Study (1-3) Cr/NC/RP
Prerequisite: Consent of staff; to be arranged with graduate coordinator.
Individual study. Maximum credit six units applicable to a master's degree.

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

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

Tod W. Reeder, Ph.D., Professor of Biology, Chair of Department
Robert W. Zeller, Ph.D., Professor of Biology, Associate Chair of Department (Graduate Adviser, M.A./M.S. programs)
Greg L. Harris, Ph.D., Professor of Biology, Vice Chair of Department
Todd W. Anderson, Ph.D., Professor of Biology
Sanford I. Bernstein, Ph.D., Albert W. Johnson Distinguished Professor of Biology
Annalisa Berta, Ph.D., Professor of Biology, Emeritus
Richard W. Bizzon, Ph.D., Professor of Biology, Emeritus
Andrew J. Bohnak, Ph.D., Professor of Biology and Assistant Dean of the Division of Graduate Affairs
Michael J. Buono, Ph.D., Professor of Biology
Kevin Burns, Ph.D., Professor of Biology (Graduate Adviser, Evolutionary Biology Ph.D.)
Douglas H. Deutchman, Ph.D., Professor of Biology and Associate Dean for Resources of the College of Sciences
Kelly S. Doran, Ph.D., Professor of Biology (Graduate Adviser, Molecular Biology)
Matthew S. Edwards, Ph.D., Professor of Biology
Christopher C. Glambotski, Ph.D., Professor of Biology
Marshal C. Hedin, Ph.D., Professor of Biology
Kevin A. Hovel, Ph.D., Professor of Biology (Graduate Adviser, Ecology)
Scott T. Kelley, Ph.D., Professor of Biology
Rebecca L. Lewis, Ph.D., Professor of Biology
David A. Lipson, Ph.D., Professor of Biology
Stanley R. Maloy, Ph.D., Professor of Biology and Dean of the College of Sciences
Leroy R. McClenaghan, Jr., Ph.D., Professor of Biology
Kathleen L. McGuire, Ph.D., Professor of Biology
Walter C. Oechel, Ph.D., Albert W. Johnson Distinguished Professor of Biology (Graduate Adviser, Ecology Ph.D. program)
Jacques Perrault, Ph.D., Professor of Biology, Emeritus
Robert S. Pozos, Ph.D., Professor of Biology
Forest L. Rohwer, Ph.D., Professor of Biology
Anca Mara Segall, Ph.D., Emeritus
(Graduate Adviser, Microbiology)
Mark A. Sussman, Ph.D., Albert W. Johnson Distinguished Professor of Biology
Constantine Tsoukas, Ph.D., Professor of Biology, Emeritus
Elizabeth R. Watts, Ph.D., Professor of Biology (Graduate Adviser, Evolutionary Biology Ph.D.)
Stephen C. Welter, Ph.D., Professor of Biology
Kathy S. Williams, Ph.D., Professor of Biology
Roland Wolkowicz, Ph.D., Professor of Biology
Rulon W. Clark, Ph.D., Associate Professor of Biology
Elizabeth A. Dinsdale, Ph.D., Associate Professor of Biology
Ralph Feuer, Ph.D., Associate Professor of Biology
Brian T. Hentschel, Ph.D., Associate Professor of Biology
Chun-Ta Lai, Ph.D., Associate Professor of Biology
Jeremy D. Long, Ph.D., Associate Professor of Biology
Ricardo M. Zayas, Ph.D., Associate Professor of Biology
(Graduate Adviser, Biology Ph.D. program)
Lluvia H. Flores Renteria, Ph.D., Assistant Professor of Biology
Marina G. Kalyuzhnaya, Ph.D., Assistant Professor of Biology
Tanya Renner, Ph.D., Assistant Professor of Biology
Nicholas J. Shikuma, Ph.D., Assistant Professor of Biology
Xiaofeng Xu, Ph.D., Assistant Professor of Biology
Donatella Zona, Ph.D., Assistant Professor of Biology

Associateships and Assistantships

Graduate teaching associateships and graduate assistantships in biology are available to qualified students on a competitive basis. Application and additional information may be secured from the graduate coordinator in biology.

General Information

The Department of Biology 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 three doctoral programs leading to the Ph.D. in biology (cell and molecular) with the University of California, San Diego, in ecology with the graduate group in ecology at the University of California, Davis, and in evolutionary biology with the University of California, Riverside. These academic programs can prepare students for careers in research, education, and public service.

Modern life science buildings provide facilities for graduate study in the biological sciences. San Diego State University also operates the Coastal and Marine Institute Laboratory on San Diego Bay, the SDSU Field Stations program with research stations at the Sky Oaks Biological Field Station near Warner Springs, the Santa Margarita Ecological Reserve near Temecula (Riverside County), and a research site at Fortuna Mountain.

Additional facilities and opportunities available in the community include the Tijuana Estuary Reserve, San Diego Zoo and 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.

Admission to Master's or Doctoral Study

Students applying for admission should electronically submit the university application along with the $55 application fee. All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the Department of Biology.

Graduate Admissions

The following materials should be submitted as a complete package directly to:

Graduate Admissions
SDSU Graduate Bulletin 2017-2018
In the College of Sciences
Biology

Master of Arts Degree in Biology

Master of Science Degree in Biology

Master of Science Degree in Microbiology

The following admissions materials must be submitted electronically:

1. Personal statement;
2. Application for teaching assistantship (optional);
3. Three letters of recommendation;
4. Unofficial transcripts;
5. Curriculum vitae or resume.

Complete instructions can be found at http://www.bio.sdsu.edu/MastersApp/PhDProced.html.

Ph.D. Degree in Biology (Cell and Molecular)

Applications to the Ph.D. program in biology (cell and molecular) require an online application through http://www.calstate.edu/apply. Applications are due by December 15 (or the preceding weekday if December 15 falls on a weekend or holiday). For additional information visit http://www.bio.sdsu.edu/eb/jdeb.html.

Ph.D. Degree in Ecology

Application to the Ph.D. program in ecology is a two-step process. The first step requires an online application to the Joint Doctoral Program in Ecology (JDPE) through University of California, Davis at http://ecology.ucdavis.edu/admissions/jointprogram.html. A joint SDSU-UCD JDPE admissions committee will evaluate applications. Those selected will be asked to submit an abbreviated application at http://www.calstate.edu/apply. All applicants must identify a faculty member at SDSU who has agreed to act as their faculty adviser for the Ph.D. program, if accepted. The person should be listed as the faculty member with whom they have spoken on their SDSU and UCD applications. Applications to UCD are due by December 15 (or the preceding week day if December 15 falls on a weekend or holiday). For additional information, consult the website http://www.bio.sdsu.edu/eb/jdeb.html.

Ph.D. Degree in Evolutionary Biology

Application to the Ph.D. program in evolutionary biology requires online application to the College of Education. A final oral examination in the field of the thesis and its implications in the broad fields of biology is also required.

Specific Requirements for the Master of Arts Degree in Biology

(Major Code: 04011) (SIMS Code: 771402)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Four 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 coordinator, 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 Biology 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 in 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

(Major Code: 04011) (SIMS Code: 771401)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Four 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 coordinator, 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 Biology 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 in the field of the thesis and its implications in the broad fields of biology is also required.

Master's Degree Research Programs

Ecology (Major Code: 04021) (SIMS Code: M.A. 771416; M.S. 771417): 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 marine ecology, plant community ecology and primary productivity, physiological plant ecology, animal population ecology and energetics, ecological genetics, ecosystems management, and systems ecology. Program adviser, Hovel.

Section I.

Master's Degree Programs

The Master of Science degrees in biology and microbiology are acceptable as preparation for more advanced degree programs. Studies for degrees in biology must be completed in one of the research programs listed below. The Master of Arts degree in biology has a foreign language requirement.

Admission to the Degree Curriculum

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/she will be considered for recommendation to enter the masters program.

1. Meet the requirements deemed equivalent to a baccalaureate degree in biology or microbiology at San Diego State University.
2. Have a grade point average of 2.85 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.

5. Be considered as capable of graduate work in the biological sciences by at least two letters of reference submitted to the biology graduate coordinator.
6. Be accepted by a research program and be sponsored by a faculty member of the area (required only for programs in ecology and evolutionary biology).

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 Four of this bulletin. Presenting a successful thesis proposal (as indicated by submission of a completed thesis proposal form) is required to be advanced to candidacy.

Specific Requirements for the Master of Arts

Degree in Biology

(Major Code: 04011) (SIMS Code: 771402)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Four 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 coordinator, 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 Biology 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 in 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

(Major Code: 04011) (SIMS Code: 771401)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Four 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 coordinator, 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 Biology 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 in the field of the thesis and its implications in the broad fields of biology is also required.

Master's Degree Research Programs

Ecology (Major Code: 04021) (SIMS Code: M.A. 771416; M.S. 771417): 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 marine ecology, plant community ecology and primary productivity, physiological plant ecology, animal population ecology and energetics, ecological genetics, ecosystems management, and systems ecology. Program adviser, Hovel.
Evolutionary Biology (Major Code: 04071) (SIMS Code: M.A. 771488; M.S. 771488): This research program is broadly concerned with the biology 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, Burns.

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 (Major Code: 04111) (SIMS Code: M.S. 771451): A separate graduate degree is offered in microbiology. Program adviser, Segall.

Molecular Biology (Major Code: 04161) (SIMS Code: M.A. 771459; M.S. 771458): The program area is concerned with biology at the molecular level, with particular emphases on the correlation of structure and function of macromolecules, catalysis and control, molecular genetics, regulation of gene expression, and the molecular basis of cellular architecture, cell movement, bioenergetics and membrane function (administered through Molecular Biology Institute). Program adviser, Doran.

Physiology (Major Code: 04101) (SIMS Code: M.A. 771466; M.S. 771465): Research opportunities are offered by faculty in the cell and molecular biology, ecology, and evolutionary biology program areas. Subareas of interest include cardiovascular, cellular, molecular, physiological plant ecology, and comparative physiology. Requirements for this program vary depending on the program area of the faculty adviser and prospective applicants are encouraged to contact potential faculty advisers or the program adviser before applying. Program adviser, Harris.

Microbiology

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy, as stated in Part Four 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) (SIMS Code: 771451)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Four of this bulletin, the student must complete a 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. All students entering the Master of Science program in microbiology will be required to take an advanced course in the molecular biology of microbes.

Not less than 18 units must be selected from courses in the area of microbiology. Among the 600- and 700-numbered courses selected, the student's program must include Biology 799A, Thesis. 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 and the Graduate School of Public Health.

A final oral examination on the field of the thesis and its implication in the broad fields of microbiology is required.
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 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 2016-17, support package included tuition, a stipend (approximately $23,000-$25,000), health coverage, and funds for research supplies. All students are required to obtain teaching experience, which is normally accomplished by appointment as a graduate teaching associate.

Faculty

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

San Diego State University:

Graduate Adviser: R. Zayas.

Faculty: Bernstein, Bizzoco, Dinsdale, Doran, Edwards (Computer Science), Feuer, Gombotski, Harris, Huxford (Chemistry and Biochemistry), Kaluzhnyaya, Kelley, Lipson, Love (Chemistry and Biochemistry), Maloy, McGuire, Perrault, Rohwer, Segal, Shikuma, Sohl (Chemistry and Biochemistry), Stumph (Chemistry and Biochemistry), Sussman, Swaarjo, (Chemistry and Biochemistry), Tsoukas, van der Gier (Chemistry and Biochemistry), Waters, Wolkomicz, Zayas, Zeller.

University of California, San Diego:

Graduate Adviser: J. Pogliano.

Faculty: Participating UCSD biology faculty

Ecology

(Major Code: 04201) (SIMS Code: 771418)

http://www.bio.sdsu.edu/ecology/prog_phd.php

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 program in ecology leading to the Ph.D. 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 research projects are underway concerning:


Ecosystem ecology and global change: Effects of global change (elevated CO 2 and climate change) on the structure and functioning of terrestrial and marine ecosystems, including local chaparral, deserts, the Alaskan Arctic and international locations in Baja California including deserts, mangroves, lagoon ecosystems, tropical peatlands of Indonesia, the Mediterranean Basin, and the South Pacific (coastal ecosystems).

Conservation ecology: Application of ecological principles to conserve species, manage populations and genetic diversity, manage fire, and restore disturbed habitats.

A complete list of SDSU faculty and their research interests can be obtained from the graduate adviser 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.

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
The 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 examination topics. At least one member of the advising committee must be from SDSU and one from UCD.

Course Requirements
Upon arrival at SDSU the advising committee works with the student to develop a course of study, which involves coursework at both SDSU and UCD and core requirements at SDSU (Biology 645 and 745), UCD (three quarters of Ecology 296, two to three Ecology 290) seminars. Prior to taking the qualifying examination, students complete the course of study, including the three quarters at UCD, and develop a firm understanding of ecological principles and research methods. The student is expected to complete the qualifying examination and advance to candidacy within six semesters.

Qualifying Examinations
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 qualifying committee.

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

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 Graduate Division at UCD will notify the student of advancement to candidacy.

Joint Dissertation Committee
After a student is admitted to candidacy, a dissertation committee consisting of at least three faculty members is nominated by the advising committee 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 requirements for the Ph.D. degree will be publication of papers as agreed by the dissertation committee, satisfactory completion of a dissertation consisting of original and significant research carried out under the guidance of a faculty member, and presentation of an exit seminar at SDSU. 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 Trustees of The California State University and the Regents of the University of California in the names of both institutions.

Financial Support
The Department of Biology at SDSU endeavors to provide adequate support for all students in good standing so that full time can be devoted to research, training, and study. Support includes tuition, a stipend, and funds for research supplies. All students are required to obtain teaching experience, which is normally accomplished by appointment as a graduate teaching associate.

Faculty
Graduate Advisers:
San Diego State University: W. Oechel
University of California, Davis: E. Grosholz

SDSU Faculty: Anderson, Bohonak, Clark, Deutschman, Dinsdale, Edwards, Hentschel, Hovel, Lai, Lewision, Lipson, Long, Oechel, Reeder, K. Williams, Xu, Zona

Evolutionary Biology
(Major Code: 04016) (SIMS Code: 771485)
http://www.bio.sdsu.edu/eb/jdeb.html

The cooperating faculties of the Department of Biology, San Diego State University (SDSU) and the Graduate program in Evolution, Ecology, and Organismal Biology (EEOG) at the University of California, Riverside (UCR) offer a joint program in evolutionary biology leading to the Ph.D. The research interests of the participating faculty cover a wide range of topics in evolutionary biology.

Program
Undergraduate Preparation for Admission
Applicants for admission to the doctoral program must present evidence of adequate preparation and capacity for advanced work in evolutionary biology. Preparation should include a strong background in biology. 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.

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, Riverside, and San Diego State University.

Advising Committee
At the start of the student's first year in the program, the student will form a Guidance Committee. This committee will consist of four faculty members, two chosen from each institution. From SDSU, the committee must include the student's prospective dissertation adviser and an additional, programmatically appropriate, member. From UCR, the committee members will be drawn from faculty within the EEOB graduate program. In consultation with the student, the Guidance Committee plans the student's program through Advancement to Candidacy.

Course Requirements
The Guidance Committee works with the student to develop an individualized course of study and identify potential deficiencies. Students in the joint doctoral program will have similar requirements as students in UCR's EEOB graduate program. Specifically, the joint doctoral students will take the Theory of Evolution (UCR Biol 216) and at least two disciplinary courses (see below; the two required disciplinary courses must cover different disciplines; at least one disciplinary course must be taken at UCR). In addition, the students will enroll in a current research topics seminar course during each UCR quarter or SDSU semester of residence. The majority of required course work should be completed prior to the Written Qualifying Examination, which is taken at the end of the second year. All required
disciplinary courses (see below) must be completed before taking the Oral Qualifying Examination. An example of the required coursework and anticipated schedule for completion is presented below:

**Year One at SDSU**

<table>
<thead>
<tr>
<th>Each semester:</th>
</tr>
</thead>
</table>
| BIOL 795               | Seminar in Ecology and Evolutionary Biology (3) Cr/NC  

At least one of the following courses:

| BIOL 624   | Population Genetics (3)  
| BIOL 740   | Phylogenetic Systematics (3)  

**Year Two at UCR**

<table>
<thead>
<tr>
<th>Each quarter of residence:</th>
</tr>
</thead>
</table>
| UCR BIOL 216             | The Theory of Evolution  

At least one of the following courses:

| UCR BIOL 252 | General Colloquium in Biology (or another disciplinary colloquium)  
| UCR BIOL 265 | Advances in Population and Evolutionary Biology  

Qualifying Examinations

**Qualifying Committee**

By the end of the second year, students are expected to have taken a written qualifying examination. The written examination is evaluated by an ad hoc committee of faculty participating in the JDPEB program. The committee will have a minimum of four faculty, at least two from SDSU EB and two from UCR EEOB. Upon passing the written examination, the student (in consultation with their SDSU and UCR co-advisors) selects an Oral Examination Committee. This committee normally consists of five faculty members: a minimum of two SDSU EB faculty and a minimum of two UCR EEOB faculty, and a UCR outside committee member. The student writes a detailed research proposal and schedules an oral examination. During the examination, the candidate must defend the research proposal and may be questioned on other topics by the Oral Examination Committee.

**Joint Dissertation Committee**

After passing the Written and Oral Examinations, students file for Advancement to Candidacy with the Graduate Divisions at SDSU and UCR. On the petition, students state the dissertation topic and selects the members of the Dissertation Committee, to be approved by the Graduate Division. This committee will consist of at least four faculty members, including the major adviser. At least two members must be from at least two members must be from the evolutionary biology faculty of SDSU and the EEOB faculty of UCR (with approval from the Graduate Division at UCR).

**Dissertation**

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

**Award of the Degree**

The Doctor of Philosophy degree in Evolutionary 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 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. Support includes tuition, a stipend, and funds for research supplies. All students are required to obtain teaching experience, which is normally accomplished by appointment as graduate teaching associate.

Faculty

**Graduate Advisers:**
San Diego State University: E. Waters
University of California, Riverside: T. Higham

SDSU Faculty: Bohonak, Burns, Clark, Flores Renteria, Hedin, Kelley, Reeder, Renner, Rohwer, Waters, Zayas, Zeller.

Courses Acceptable for Master's and Doctoral Degree Programs in Biology (Biol)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour prerequisites, and related information.

**UPPER DIVISION COURSES**

**Writing Requirement:** Completion of the Graduation Writing Assessment Requirement or the eligibility to enroll in an upper division writing course is a prerequisite for all upper division biology courses numbered 450 and above.

**BIOL 509. Evolutionary Biology (3)**

Two lectures and two hours of activity.
Prerequisite: Biology 352.
Evolutionary biology, including genetics of populations, speciation, systematic biology, adaptation, role of development in evolution, evolution of behavior, and comparative biology. Evolutionary biology as the central organizing principle of biology.

**BIOL 510. Molecular Evolution (3)**

Prerequisites: Biology 352 and 354.
Molecular evolution including concepts of homology and convergence, the nearly neutral theory of evolution, evolution of protein function, detecting selection, multi-gene family evolution and evolutionary genomics.

**BIOL 512. Evolution and Ecology of Marine Mammals (3)**

Two lectures and three hours of laboratory.
Prerequisites: Biology 203, 203L, 204, 204L and six units of upper division coursework in the major.
Evolution, life histories, morphology, physiology, and ecology of marine mammals including pinniped, cetacean and sirenian evolution, diet and foraging strategies, social organization, reproductive strategies, echolocation, diving physiology, and conservation.

**BIOL 514. Biology of the Algae (4)**

Three lectures and three hours of laboratory.
Prerequisites: Biology 203, 203L, 204, 204L and six units of upper division coursework in the major.
Evolution, life histories, morphology, physiology, and ecology of micro and macro algae, with attention to both marine and freshwater taxa, and of sea-grasses.

**BIOL 515. Marine Invertebrate Biology (4)**

Two lectures and six hours of laboratory.
Prerequisites: Biology 203, 203L, 204, 204L. Strongly recommended: Completion of three to six upper division units in the major. Structure and function, ecology, behavior, physiology and phyletic relationships of marine invertebrate animals.


Three lectures and three hours of laboratory.
Prerequisites: Biology 203, 203L, 204, 204L, 215.
Biological of marine invertebrate larvae. Biodiversity, evolution of complex life cycles, larval culture techniques, physiological and ecological consequences of environmental variability during larval development. Designing and peer reviewing original research proposals related to larval ecology.

**BIOL 516B. Marine Larval Ecology Research Part 2 (4)**

Three lectures and three hours of laboratory.
Prerequisites: Biology 516A and consent of instructor.
Research experience investigating marine invertebrate larval ecology.
BIOL 517. Marine Ecology (4)
Two lectures and six hours of laboratory.
Prerequisite: Biology 354.
Ecological concepts as applied to pelagic and benthic marine organisms and their environment. Field and laboratory experience in oceanographic techniques, particularly the coastal environment.

BIOL 518. Biology of Fishes (4)
Three lectures and three hours of laboratory.
Prerequisite: Biology 354.
Ecology, anatomy, physiology, evolution, taxonomy, environmental constraints, habitats, feeding, behavior, growth, reproduction, biotic interactions, population dynamics, and assemblage structure. Fisheries biology concepts to include stock-recruitment models, density dependence and population regulation, management of fisheries, and conservation. Not open to students with credit in Biology 520 and 541.

BIOL 523. Herpetology (4)
Two lectures and six hours of laboratory.
Prerequisites: Biology 203, 203L, 204, 204L. Recommended: Biology 352.
Evolution, systematics, distribution, and ecology of amphibians and reptiles of the world.

BIOL 524. Ornithology (4)
Two lectures, six hours of laboratory or field excursions, and a field project.
Prerequisites: Biology 203, 203L, 204, 204L. Strongly recommended: Completion of three to six upper division units in the major.
Study and identification of birds, especially those of the Pacific Coast and the San Diego region.

BIOL 525. Mammalogy (4)
Two lectures and six hours of laboratory.
Prerequisites: Biology 203, 203L, 204, 204L. Strongly recommended: Completion of three to six upper division units in the major.
Evolution, systematics, distribution and ecology of mammals of the world.

BIOL 526. Terrestrial Arthropod Biology (4)
Two lectures and six hours of laboratory.
Prerequisites: Biology 203, 203L, 204, 204L. Strongly recommended: Completion of three to six upper division units in the major.
Structure, function, behavior, ecology, evolution, and relationships of major groups of terrestrial arthropods, including insects, arachnids, and myriapods. Identification and natural history of southern California diversity.

BIOL 527. Animal Behavior (3)
Prerequisites: Biology 203, 203L, 204, 204L, 215; Psychology 211 and 260 for psychology majors.
Biological bases of animal behavior with emphasis on ethological approach, including evolution and adaptive significance of behavior.

BIOL 527L. Animal Behavior Laboratory (1)
Three hours of laboratory.
Prerequisite: Credit or concurrent registration in Biology 527.
Animal behavior with emphasis on ethological approach to include evolution and adaptive significance of behavior, data collection and analysis, scientific writing and results.

BIOL 528. Microbial Ecology (3)
Two lectures and three hours of laboratory.
Prerequisites: Biology 203, 203L, 204, 204L. Recommended: Biology 350 and 364.
Roles of microorganisms in soil, aquatic and marine ecosystems, microbial adaptations to the environment, and interactions within microbial communities and between microbes and multicellular organisms. Laboratory techniques to isolate and study microbes.

BIOL 530. Plant Systematics (4)
Two lectures and six hours of laboratory, field trips.
Prerequisites: Biology 203, 203L, 204, 204L. Strongly recommended: Completion of three to six upper division units in the major.
Plant description, identification, classification, and nomenclature with emphasis on evolutionary patterns, interdisciplinary data acquisition, and phylogenetic analysis.

BIOL 531. Taxonomy of California Plants (4)
Two lectures and six hours of laboratory.
Prerequisites: Biology 203, 203L, 204, 204L.
Fundamentals of plant taxonomy with emphasis on identification of plants native and naturalized to California. Plant collecting techniques. Field trips are required.

BIOL 535. Plant Ecology (4)
Three lectures and three hours of laboratory.
Prerequisites: Biology 203, 203L, 204, 204L. Strongly recommended: Biology 354.
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.

BIOL 538. Environmental Policy and Regulations (3)
(Same course as Environmental Science 538)
Prerequisite: Biology 354.
History of biological conservation and environmental laws; regulations governing biological resources; role of biologists; environmental impact analysis, operation of regulatory and resource agencies; biologists as expert witnesses; wetland protection and mitigation, state heritage programs, role of nongovernmental agencies.

BIOL 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.

BIOL 542. Ecological Signaling in the Environment (3)
Prerequisites: Biology 354 and Chemistry 201.
Ecological consequences of species interactions mediated by signals in terrestrial and aquatic ecosystems. Evaluating primary literature and conveying science to a broad audience.

BIOL 544. Terrestrial Ecosystems and Climate Change (3)
(Same course as Environmental Science 544)
Prerequisite: Biology 354.
Controls on fluxes and stocks of nutrients within terrestrial ecosystems, ecosystem responses, feedbacks to climate change. Climate systems, water transport, production and decomposition, nutrient cycling, stable isotopes, spatial and temporal integration.

BIOL 544L. Global Change Science Laboratory (2)
(Same course as Environmental Science 544L)
Six hours of laboratory.
Prerequisite: Biology 354.
Ecological methods in ecosystem and climate change science to include chemical analysis (of stable isotopes and elements) and meteorological measurements. Modeling, data interpretation, and presentations.

BIOL 549. Microbial Genetics and Physiology (3)
Prerequisite: Biology 350 or 366.
Physiology of microbial growth, bacterial structure and function, genetics of bacteriophages and bacteria.

BIOL 554. Molecular Virology (3)
Prerequisites: Biology 362 and Chemistry 365.
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.

BIOL 556. Scanning Electron Microscopy Laboratory (2)
Six hours of laboratory.
Prerequisites: Biology 204, 204L, and Physics 180B.
Biological specimen preparation and operation of scanning electron microscope.

BIOL 557. Transmission Electron Microscopy Laboratory (3)
One lecture and six hours of laboratory.
Prerequisites: Biology 204, 204L, and Physics 180B.
Biological sample preparation and operation of transmission electron microscope.

BIOL 560. Animal Physiology (3)
Prerequisites: Biology 203, 203L, 204, 204L; Chemistry 365; Physics 180B, 182A, and 182B.
Physiology of vertebrate and invertebrate animals with emphasis on diversity of solutions to physiological problems and on functional integration of organ systems.
Biology

BIOL 562. Ecological Metagenomics (3)
Two lectures and three hours of laboratory.
Prerequisites: Credit or concurrent registration in Biology 354 and 366.
Next generation DNA sequencing technology with emphasis on ecological applications in microbial communities. Metagenomic analysis of taxonomic identification, physiological function, and the ecological role of the microbial community in the broader ecosystem.

BIOL 567. Advanced Biochemistry, Cellular, and Molecular Biology (4)

BIOL 567L. Biochemistry, Cellular, and Molecular Biology Laboratory II (2)
Six hours of laboratory.
Prerequisites: Biology 366 and 366L. Recommended: Biology 350. Intermediate laboratory approaches to biochemistry, cellular biology, and molecular biology at a level appropriate for both advanced undergraduate and graduate students.

BIOL 568. Bioinformatics (3)
(Same course as Bioinformatics and Medical Informatics 568)
Two lectures and three hours of laboratory.
Prerequisite: Biology 366. Bioinformatics analysis methods and programming skills. Practical bioinformatic software for sequence analysis, bioinformatic algorithms and programming fundamentals.

BIOL 570. Neurobiology (3)
Prerequisite: Biology 366 or 590 or Psychology 360 for psychology majors.
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.

BIOL 575. Molecular Basis of Heart Disease (3)
Prerequisite: Biology 366 or 590. Current literature on the molecular basis of disordered physiology leading to heart disease.

BIOL 576. Developmental Biology (3)
Prerequisite: Biology 366. Strongly recommended: Biology 567. Fundamental processes of development from fertilized egg to organism. Emphasis on cellular and molecular mechanisms common to development of metazoan organisms.

BIOL 584. Medical Microbiology (3)
Prerequisites: Biology 350 and 366. Major bacterial pathogens; molecular mechanisms of pathogenesis, microbial toxins and antimicrobial agents; immune response to microbial infections; biochemical and molecular diagnostics.

BIOL 585. Cellular and Molecular Immunology (3)
Prerequisite: Biology 366. Recommended: Credit or concurrent registration in Biology 567 and 567L. 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. Not open to students with credit in Biology 485.

BIOL 589. Stem Cell and Regenerative Biology (3)
Prerequisites: Biology 366 and credit or concurrent registration in Biology 366L. Stem cell basics, cloning, tissue engineering, research on animal models of regeneration, political and ethical issues surrounding stem cell debate.

BIOL 590. Physiology of Human Systems (4)
Three lectures and one hour of discussion.
Prerequisites: Biology 366, Chemistry 365, Physics 180B, 182B. Human physiology presented at both cellular and organ system levels; neurophysiology, muscle physiology, cardiovascular physiology and respiration, kidney function, hormone function, and reproduction. For students majoring in a natural science or pre-professional studies.

BIOL 596. Special Topics in Biology (1-4)
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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

BIOL 597A. Univariate Statistical Methods in Biology (3)
Two lectures and three hours of laboratory.
Prerequisite: Biology 352 or 354 or 366. Application of univariate statistical techniques in biological sciences.

GRADUATE COURSES

BIOL 600. Seminar (1-3)
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.

BIOL 606. Biological Data (3)
Two lectures and three hours of laboratory.
Prerequisite: Biology 597A or equivalent graduate course in biostatistics. Concepts and applications of advanced statistical techniques in the biological sciences to include multivariate statistics, analysis of discrete data, spatial statistics, time series analysis, and Monte Carlo methods (e.g. bootstrapping and randomization tests).

BIOL 624. Population Genetics (3)
Two lectures and two hours of activity.
Prerequisite: Biology 352. Theoretical and applied population genetics to include genetic diversity in natural populations, random drift, mutation, gene flow, natural selection, nucleotide variation, and quantitative genetics. Emphasis on data analysis and interpretation.

BIOL 645. Theory and Principles of Ecology I (3)
Prerequisite: Admission to graduate program in biology and approval of ecology graduate adviser. Major theoretical concepts in ecology, topics of current interest, and historical context of central ideas in ecology, with emphasis on use of primary literature.

BIOL 677. Seminar in Marine Conservation Biology (3)
Prerequisite: Graduate standing. Threats to marine biodiversity and marine populations.

BIOL 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.

BIOL 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

BIOL 725. Clinical Anatomy I (4)
(Same course as Doctor of Physical Therapy 725)
Three lectures and three hours of laboratory.
Prerequisite: Admission to the DPT program. Applied anatomy of upper and lower extremities of the human body; joint anatomy and mechanics, anatomical structures to produce articular movement to include muscles, arterial, peripheral nervous systems, and articular and extremity movement patterns.

BIOL 726. Clinical Anatomy II (4)
(Same course as Doctor of Physical Therapy 726)
Three lectures and three hours of laboratory.
Prerequisite: Biology 725 or Doctor of Physical Therapy 725. Axial portion of the human body; biomechanics of the spinal column to include head and neck, thorax, related viscera, and abdomeno-pelvic region.
**BIOL 740. Phylogenetic Systematics (3)**
Two lectures and three hours of laboratory.
Prerequisite: Biology 354.
Theory and methodology of phylogenetic systematics. Includes use of computer algorithms, survey of literature and preparation of a project in phylogenetic systematics. Not open to students with credit in Biology 740 (Seminar in Phylogenetic Systematics).

**BIOL 745. Theory and Principles of Ecology II (3)**
Prerequisite: Admission to graduate program in biology and Biology 645.
Community and ecosystem ecology to include foodwebs, landscapes, ecosystems, biogeochemistry. Conservation and applied ecology to include climate change, anthropogenic impacts on natural systems.

**BIOL 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.

**BIOL 795. Seminar in Ecology and Evolutionary Biology (1) Cr/NC**
Prerequisite: Graduate standing.
Recent research advances in ecology and evolutionary biology. May be repeated with new content. Maximum credit six units applicable to a graduate degree.

**BIOL 797. Research (1-3) Cr/NC/RP**
Research in one of the fields of biology. Maximum credit six units of 797 and 798 applicable to a master’s degree.

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

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

**BIOL 799B. Thesis or Project Extension (0) Cr/NC**
Prerequisite: Prior registration in Thesis or Project 799A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP 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.

**DOCTORAL COURSES**

**BIOL 897. Doctoral Research (1-15) Cr/NC/RP**
Prerequisite: Admission to the doctoral program.
Independent investigation in the general field of the dissertation.

**BIOL 899. Doctoral Dissertation (1-15) Cr/NC/RP**
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 student plans to graduate.
Molecular Biology

Faculty
Greg L. Harris, Ph.D., Professor of Biology
(Molecular Biology Institute Director)
Sanford I. Bernstein, Ph.D., Albert W. Johnson Distinguished Professor of Biology
Kelly S. Doran, Ph.D., Professor of Biology
(Graduate Adviser, Molecular Biology)
Christopher C. Giembacki, Ph.D., Professor of Biology
Tom Huxford, Ph.D., Professor of Chemistry and Biochemistry
Scott T. Kelley, Ph.D., Professor of Biology
Stanley R. Maloy, Ph.D., Professor of Biology and Dean of the College of Sciences
Kathleen L. McGuire, Ph.D., Professor of Biology
Penelope J.E. (Jenny) Quintana, Ph.D., Professor of Public Health
Forest L. Rohwer, Ph.D., Professor of Biology
Anca Mara Segall, Ph.D., Professor of Biology
Mark A. Sussman, Ph.D., Albert W. Johnson Distinguished Professor of Biology
Elizabeth R. Waters, Ph.D., Professor of Biology
Roland Wolkowicz, Ph.D., Professor of Biology
Robert W. Zeller, Ph.D., Professor of Biology
(Graduate Adviser, M.A./M.S. Programs)
Ralph Feuer, Ph.D., Associate Professor of Biology
John J. Love, Ph.D., Associate Professor of Chemistry and Biochemistry
Peter van der Geer, Ph.D., Associate Professor of Chemistry and Biochemistry
Ricardo Zayas, Ph.D., Associate Professor of Biology

Adjunct Faculty
Piero Anversa, M.D., Harvard Medical School
Jeremy Barr, Ph.D., San Diego State University
Michael Buchmeier, Ph.D., University of California, Irvine
Alex Burgin, Ph.D., Emerald Biostructures
Maurizio C. Capogrossi, M.D., L’Istituto Dermopatico dell’Immacolata (IDI - IRCCS)
Karen Clingerman, D.V.M., The Scripps Research Institute
Thomas Cujec, Ph.D., Eli Lilly
Adrienne Dubin, Ph.D., The Scripps Research Institute
Kim Finley, Ph.D., SDSU Donald P. Shiley BioScience Center
Roger Allyn Forsyth, Ph.D., San Diego State University
Natalie Gude, Ph.D., San Diego State University
Deron Herr, Ph.D., National University of Singapore
Valentine Lance, Ph.D., San Diego State University
Phyllis-Jean Linton, Ph.D., SDSU Donald P. Shiley BioScience Center
Patrick McDonough, Ph.D., Vala Sciences, Inc.
Aram Megighian, Ph.D., University of Padova
Girish Meikani, Ph.D., San Diego State University
John Mokili, Ph.D., San Diego State University
Brett Monica, Ph.D., Isis Pharmaceuticals, Inc.
James W. Neel, Ph.D., San Diego State University
Kent Osborn, Ph.D., San Diego State University
Joy A. Phillips, Ph.D., SDSU Donald P. Shiley BioScience Center
Clemencia Pinilla, Ph.D., Torrey Pines Research Institute
Harry H. Plymale, D.V.M., San Diego State University
Coralia Poizat, Ph.D., King Faisal Specialist Hospital & Research Centre in Riyadh
Moselio Schaechter, Ph.D., San Diego State University/University of California, San Diego
Marilyn Thoman, Ph.D., SDSU Donald P. Shiley BioScience Center
John D. Trawick, Ph.D., San Diego State Institute
Mirko Volkers, M.D., San Diego State University
Gregor Zlokarnik, Ph.D., Vertex Pharmaceuticals

General Information
The Molecular Biology Institute (MBI) administers the Master of Arts and Master of Science degrees in biology with a concentration in molecular biology. The MBI is currently composed of members from the Departments of Biology, Chemistry and Biochemistry, and the Graduate School of Public Health, and is designed to serve these departments in the coordination, support, and enhancement of research and training in the molecular biological sciences. See Biology in this section of the bulletin for information on how to apply. Graduate teaching associateships in biology and chemistry are available to qualified students. Application blanks and additional information may be obtained from the graduate coordinator of biology and are also available at http://www.bio.sdsu.edu.

Admission to Graduate Study
Candidates for admission may come from a variety of disciplines in the biological and physical sciences. Ultimately, the research programs 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:

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 2.85 or better in work taken for the baccalaureate degree.
4. Supply two letters of reference that describe the applicant’s potential for graduate work.

Students who do not meet all of the above requirements for admission 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 Four 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 or Master of Science Degree
(Major Code: 04161) (SIMS Code: M.A. 771459; M.S. 771458)
In addition to meeting the requirements for classified graduate standing and the basic requirements for the master’s degree as described in Part Four of this bulletin, the student must complete a graduate program of 30 units of 500-level and above courses selected, with the approval of the MBI graduate adviser. A list of suggested courses is presented on the following page. All students entering the Master of Science program in molecular biology will be required to take an advanced course in molecular biology. At least 15 units of the courses selected must be in 600- and 700-numbered courses including 799A, Thesis. The student must complete at least 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.
Courses Acceptable for the Concentration in Molecular Biology (M BIO)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

**UPPER DIVISION COURSES**

**Biology (BIOL)**
- BIOL 510. Molecular Evolution (3)
- BIOL 549. Microbial Genetics and Physiology (3)
- BIOL 554. Molecular Virology (3)
- BIOL 556. Scanning Electron Microscopy Laboratory (2)
- BIOL 557. Transmission Electron Microscopy Laboratory (3)
- BIOL 567. Advanced Biochemistry, Cellular, and Molecular Biology (4)
- BIOL 568/BIOMI 568. Bioinformatics (3)
- BIOL 570. Neurobiology (3)
- BIOL 575. Molecular Basis of Heart Disease (3)
- BIOL 576. Developmental Biology (3)
- BIOL 584. Medical Microbiology (3)
- BIOL 585. Cellular and Molecular Immunology (3)
- BIOL 590. Physiology of Human Systems (4)
- BIOL 596. Special Topics in Biology (1-4)
- BIOL 597A. Univariate Statistical Methods in Biology (3)

**Chemistry (CHEM)**
- CHEM 510. Advanced Physical Chemistry (3)
- CHEM 550. Instrumental Methods of Chemical Analysis (2)
- CHEM 560. General Biochemistry (3)
- CHEM 562. Intermediary Metabolism (2)
- CHEM 563. Nucleic Acid Function and Protein Synthesis (2)
- CHEM 564. Receptor Biochemistry and Protein Modification (2)
- CHEM 567. Biochemistry Laboratory (3)
- CHEM 596. Advanced Special Topics in Chemistry (1-3)

**GRADUATE COURSES**

**Biology (BIOL)**
- BIOL 600. Seminar (1-3)
- BIOL 698. Advanced Topics in Biology (1-3)
- BIOL 797. Research (1-3) Cr/NC/RP
- BIOL 798. Special Study (1-3) Cr/NC/RP

**Chemistry (CHEM)**
- CHEM 712. Chemical Kinetics (3)
- CHEM 751. Separations Science (3)
- CHEM 763. Cellular Regulation (2)
- CHEM 790. Seminar (1-3)
- CHEM 791. Research Seminar (1)
- CHEM 792. Bibliography (1)
- CHEM 797. Research (1-3) Cr/NC/RP
- CHEM 798. Special Study (1-3) Cr/NC/RP

**M BIO 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.

**M BIO 601. Colloquium in Molecular Biology Research (1) Cr/NC/RP**
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.

**M BIO 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
Douglas H. Deutschman, Ph.D., Professor of Biology and Associate Dean for Resources of the College of Sciences
Juanjuan Fan, Ph.D., Professor of Statistics
Richard A. Levine, Ph.D., Professor of Statistics
Kung-Jong Lui, Ph.D., Professor of Statistics
John E. Alcaraz, Ph.D., Associate Professor of Public Health
Barbara Ann Bailey, Ph.D., Associate Professor of Statistics
Jianwei Chen, Ph.D., Associate Professor of Statistics
Chii-Dean Lin, Ph.D., Associate Professor of Statistics
Xialu Liu, Ph.D., Assistant Professor of Management Information Systems
Jorge C. Román, Ph.D., Assistant Professor of Statistics
Mingan Yang, Ph.D., Assistant Professor of Public Health

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, Mathematics and Statistics, and the Graduate School of Public Health. A Master of Science degree in statistics with concentration in biostatistics may be earned in the Department of Mathematics and Statistics; 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 in Interdisciplinary Studies (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 Mathematics and Statistics. In addition to these applied courses, the Department of Mathematics and Statistics offers some courses in statistics and biostatistics that are more mathematically oriented.

Courses Acceptable for Biostatistics and Biometry
Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

**Biology Course (BIOL)**
(Adviser: Douglas H. Deutschman, Ph.D., 619-594-5391)
BIOL 597A. Univariate Statistical Methods in Biology (3)

**Public Health Courses (P H)**
(Adviser: Mingan Yang, Ph.D., 619-594-3454)
P H 602. Biostatistics (3)
P H 627. Advanced Statistical Methods in Public Health (3)
P H 628. Applications of Multivariate Statistics in Public Health (3)

**Statistics Courses (STAT)**
(Adviser: Kung-Jong Lui, Ph.D., 619-594-7239)
STAT 510. Applied Regression Analysis (3)
STAT 520. Applied Multivariate Analysis (3)
STAT 550. Applied Probability (3)
STAT 551A. Probability and Mathematical Statistics (3)
STAT 551B. Probability and Mathematical Statistics (3)
STAT 560. Sample Surveys (3)
STAT 580. Statistical Computing (3)
STAT 670A-670B. Advanced Mathematical Statistics (3-3)
STAT 672. Nonparametric Statistics (3)
STAT 676. Bayesian Statistics (3)
STAT 677. Design of Experiments (3)
STAT 678. Survival Analysis (3)
STAT 680A-680B. Advanced Biostatistical Methods (3-3)
Admission to Graduate Study

Admission to the college's graduate programs is competitive. A number of factors are taken into consideration in the admission decision, and only the top applicants are accepted. These factors include the applicant's previous academic performance, the quality of the previous universities attended, the field of undergraduate study, scores on the Graduate Management Admissions Test (GMAT) or the Graduate Record Examination (GRE), management experience, and the written application essay. References which validate experience will also be considered.

Associateships

Graduate teaching associateships and graduate nonteaching associateships in business administration are available to a limited number of qualified students. The graduate degree may also prepare students for a teaching career. Applications and additional information may be secured from the departmental offices of the Fowler College of Business.

General Information

The Fowler College of Business offers graduate study leading to the Master of Business Administration degree, Master of Science degree in Business Administration, Master of Science degree in Accountancy, and Master of Science degree in Information Systems. The college also offers a concurrent program with the College of Arts and Letters leading to both a Master of Business Administration and a Master of Arts in Latin American Studies and a concurrent program with California Western School of Law or Thomas Jefferson School of Law leading to a Master of Business Administration degree and Juris Doctor degree. The Fowler College of Business M.B.A. and M.S. programs are accredited by AACSB International—The Association to Advance Collegiate Schools of Business.

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 students to concentrate their education in courses of specialized study in accounting.

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 field study 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.

All students considering graduate work in business are advised to seek further details from the Graduate Programs Office in the Fowler College of Business, 619-594-8073, prior to applying for admission.

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee. All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the Graduate Programs Office in the Fowler College of Business.

Graduate Admissions

The following materials should be submitted as a complete package directly to:

Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

1. Official transcripts (in sealed envelopes) from all postsecondary institutions attended;
   NOTE:
   • Students who attended SDSU need only submit transcripts for work completed since last attendance.
   • Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.
2. GMAT scores (http://www.mba.com SDSU institution code 9LT-2P-73) or GRE scores (http://www.ets.org SDSU institution code 4682);
3. English language score, if medium of instruction was in a language other than English (http://www.ets.org/ SDSU institution code 4682).

Master of Business Administration Degree
Master of Business Administration Degree and Juris Doctor Degree
Master of Business Administration Degree and Master of Arts Degree in Latin American Studies
Master of Science in Business Administration
Master of Science in Accountancy
Master of Science in Information Systems

The following materials must be submitted electronically. Submission instructions available at http://www.sdsu.edu/graduatebusiness

1. Personal statement;
2. Curriculum vitae or resume;
3. Letters of reference (two required; maximum of three).

Master of Business Administration Degree for Executives

The following materials should be mailed or delivered to:

Fowler College of Business Executive and Specialized Programs
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-8232

1. Two sets of official transcripts (in sealed envelopes);
2. Two letters of recommendation (forms are available on the website);
3. A one-page statement of career objectives;
4. Curriculum vitae or resume.

Complete directions are included in the MBA for Executives program application packet. Call 619-594-6010 or http://www.sdsu.edu/mba
Master of Business Administration Degree

Admission to the Degree Curriculum

Regulations governing admission to the university and to the Fowler College of Business 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 Four of this bulletin.

Specific Requirements for the Master of Business Administration Degree

(Major Code: 05011) (SIMS Code: 221702)

The student must complete an approved program of 39 to 45 units of graduate coursework. Up to six units of 500-level courses may be included in the program.

Up to 12 units of coursework completed at an accredited AACSB institution or with the approval of the director of graduate programs may be accepted for transfer credit.

Students entering the program should have completed coursework in basic statistics and macro- and micro-economics. They should be proficient in college-level mathematics including algebra and in the use of spreadsheets.

The requirements for the degree are as follows:

1. Complete the following core of seven courses. (21 units)
   - B A 623  Statistical Analysis (3)
   - B A 624  Organizational Behavior and Leadership (3)
   - B A 625  Financial and Management Accounting (3)
   - B A 626  Business Economics (3)
   - B A 627  Marketing (3)
   - B A 628  Operations and Supply Chain Management (3)
   - B A 629  Financial Management (3)

2. B A 630  Business Strategy (3)

3. Complete 18 units of electives. Not more than 12 units outside the Fowler College of Business and not more than a total of six units in courses 780 (Field Studies in Business), 797 (Research), and 798 (Special Study), will be accepted toward the degree. Courses taken outside of the Fowler College of Business should be related to the M.B.A. program and must be approved by the director of graduate business programs.

4. Complete a culminating experience course. (3 units)
   - B A 795  Business Consulting (3)
   - B A 796  Integrative Business Analysis (3)
   - B A 799A  Thesis (3) Cr/NC/RP

A student may choose to specialize by completing 12 units of elective courses from one of the following specializations:

<table>
<thead>
<tr>
<th>Specializations</th>
<th>Major Code</th>
<th>SIMS Code</th>
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<td>Accountancy</td>
<td>05021</td>
<td>221908</td>
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<td>Entrepreneurship</td>
<td>05997</td>
<td>222361</td>
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<td>Finance</td>
<td>05041</td>
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<td>Health Services Administration</td>
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<td>Information Systems</td>
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<td>International Business</td>
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<td>Marketing</td>
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<td>Project Management</td>
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<td>221719</td>
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<tr>
<td>Real Estate</td>
<td>05111</td>
<td>222194</td>
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<tr>
<td>Supply Chain Management</td>
<td>05064</td>
<td>222381</td>
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</tbody>
</table>

Full and Half-Time Programs

Students enrolling in the M.B.A. program may be either full- or part-time students. Generally, in their first year, full-time students take twelve credit units at a time and part-time students take six credit units at a time. During the first year, students will be assigned to a cohort and complete certain required courses together.

Master of Business Administration

Sports Business Management

(Offered only through the College of Extended Studies)

Admission to the Degree Curriculum

Regulations governing admission to the university and to the Fowler College of Business 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 Four of this bulletin.

Specific Requirements for the Master of Business Administration Degree for Sport Business Management

(Major Code: 05011) (SIMS Code: 221715)

The Master of Business Administration for Sports Business Management is operated by Executive and Specialized Programs in the Fowler College of Business and is an alternative path for the Master of Business Administration degree. Students accepted for the M.B.A. Sports Business Management program are fully matriculated in the university and meet all university requirements as established by the Graduate Council.

The M.B.A. Sports Business Management program is an intensive, full-time, 45-unit program with classroom work beginning in January and continuing until December, including summer, followed by a four- to six-month internship.

The fee structure is unique to the program and unrelated to the San Diego State University fee schedule. Students should contact the program office for a program calendar, Class Schedule, and fee summary.

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Four of this bulletin, students must complete an approved program of study containing 45 units of 600- and 700-numbered courses. These courses will be offered in a predetermined pattern. No transfer courses and no substitute courses are accepted. The official programs of all students in any one cycle are identical. Advancement to candidacy requires completion of at least 24 units of coursework listed on the official program of study with a 3.0 (B) minimum grade point average.

The requirements are as follows:

1. Complete the following core of seven courses. (21 units)
   - B A 623  Statistical Analysis (3)
   - B A 624  Organizational Behavior and Leadership (3)
   - B A 625  Financial and Management Accounting (3)
   - B A 626  Business Economics (3)
   - B A 627  Marketing (3)
   - B A 628  Operations and Supply Chain Management (3)
   - B A 629  Financial Management (3)

2. B A 630  Business Strategy (3)

3. Complete an additional 15 units of pre-determined courses related to the business of sports.

4. B A 780  Field Studies in Business (1-3)
   (Three units are required for completion of degree.)

5. B A 795  Business Consulting (3)
Master of Business Administration
for Executives

(Offered only through the College of Extended Studies)

Admission to the Degree Curriculum

In addition to meeting the criteria for admission to the university, as well as those listed under “Admission to the Graduate Program in the Fowler College of Business,” applicants must also demonstrate that they have had significant experience in management-level positions in business, government, or not-for-profit organizations.

Specific Requirements for the M.B.A. Degree for Executives

(Major Code: 05011) (SIMS Code: 221705)

The Master of Business Administration for Executives is operated by Executive and Specialized Programs in the Fowler College of Business and is an alternative path for the Master of Business Administration degree. The program is designed especially to meet the needs of mid-career executives. Students in the program have an average of 15 years of full-time professional work experience and eight years of managerial or equivalent experience, and bring a wealth of practical knowledge to the classroom discussion.

Students accepted for the M.B.A. for Executives concentration are fully matriculated in the university and meet all university requirements as established by the Graduate Council.

All courses are scheduled in a modular fashion on alternate Fridays and Saturdays over a 24-month period for the convenience of working executives.

The fee structure is unique to the program and unrelated to the San Diego State University fee schedule. Students should contact the program office for a program calendar, Class Schedule, and fee summary.

In addition to meeting the requirements for classified graduate standing, and the basic requirements for the master's degree as described in Part Four of this bulletin, students must complete an approved program of study containing 48 units of 600- and 700-numbered courses. These courses will be offered in a predetermined pattern. No transfer courses and no substitute courses are accepted.

The official programs of all students in any one cycle are identical. Advancement to candidacy requires completion of at least 24 units of coursework listed on the official program of study with a 3.0 (B) minimum grade point average.

MBA for Executives

B A 601 Organizational Behavior for Executives (3)
B A 602 Statistics for Business Decisions (3)
B A 603 Executive Financial Accounting (2)
B A 604 Executive Managerial Accounting (2)
B A 605 Managerial Marketing (2)
B A 615 Strategic Financial Management (3)
B A 616 Competitive Analysis (3)
B A 700 Business in the Global Environment (3)
B A 701 Executive Entrepreneurship (3)
B A 702 Social Responsibility: Legal and Ethical Environment of Business (3)
B A 703 Strategic Management (3)
B A 705 Marketing Strategy (2)
B A 707 Executive Seminar in Negotiations (2)
B A 709 Seminar in the Global Financial Environment (3)
B A 710 Executive Leadership (3)
B A 711 Seminar in Contemporary Challenges (1-5)
B A 790 Directed Readings in Business Administration (3) Cr/NC

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 Fowler College of Business, as described above, and in Part Two of this bulletin, the student must have satisfactorily completed equivalents of the following courses:

B A 623 Statistical Analysis (3)
B A 624 Organizational Behavior and Leadership (3)
B A 625 Financial and Management Accounting (3)
B A 626 Business Economics (3)
B A 627 Marketing (3)
B A 628 Operations and Supply Chain Management (3)
B A 629 Financial Management (3)

In addition, the student’s adviser may request satisfactory completion of additional prerequisite courses in the student's proposed field of specialization. Current students are required to complete any needed program prerequisites by enrolling in graduate courses and may not satisfy prerequisites by enrolling in undergraduate equivalency courses.

Notice of admission to a curriculum with classified graduate standing will be sent to the student upon the recommendation of the Fowler College of Business and the approval of the dean of the Division of Graduate Affairs.

For admission to the taxation concentration (05022) the student must be a certified public accountant (CPA) or have a juris doctor (JD) degree from an accredited law school and have completed Accountancy 201 and 202.

Advancement to Candidacy

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

In addition to meeting the criteria for admission to the university, as described in Part Four of this bulletin, students concurrently enrolled in deficiency coursework may be given permission to take the comprehensive examination in their concentration prior to actual completion of all coursework. However, comprehensive examinations will not be evaluated and results will not be reported to the Division of Graduate Affairs until all deficiency coursework has been successfully completed. This may delay graduation.

Specific Requirements for the Master of Science Degree

(Major Code: 05011) (SIMS Code: 221701)

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 Four of this bulletin, the student must complete a graduate program of at least 30 approved units to include at least 21 units in 600- and 700-numbered courses (except for the concentration in Financial and Tax Planning which requires at least 18 units in 600- and 700-numbered courses). Up to nine units of coursework may be accepted as transfer credit. This program cannot include Finance 604 and Business Administration courses numbered 625-629, without specific permission of the director, Graduate Business Programs. At least 24 units must be in business administration and economics. Not more than a total of six units in courses 797 (Research), 798 (Special Study), and Business Administration 780 (Field Studies in Business), may be accepted for credit toward the degree.

Each of the concentrations in the Master of Science in Business Administration requires Plan A, Thesis; or Plan B, Directed Readings in Business Administration or a written comprehensive examination offered by the appropriate department. The program must be approved by the college and departmental adviser.

For regulations concerning grade point averages, final approval for the granting of the degree, award of the degree, and diplomas, see the section entitled “Requirements for the Master's Degree,” in Part Four of this Bulletin.
Concentration in Financial and Tax Planning  
(Major Code: 05043) (SIMS Code: 222124)

For the concentration in financial and tax planning, an optional Plan B, Comprehensive Examination, is available. 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 590.

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
- STAT 119 Elementary Statistics for Business (3)
- ECON 320 Intermediate Macroeconomic Theory (3) OR
- ECON 422 Business Cycles (3)
- FIN 240 Legal Environment of Business (3)
- FIN 323 Fundamentals of Finance (3)

Concentration in Financial and Tax Planning  
(Major Code: 05043) (SIMS Code: 222124)

Concentrations  
Major Code  
SIMS Code

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<th>Concentration</th>
<th>Major Code</th>
<th>SIMS Code</th>
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<tr>
<td>No new students are being admitted into the following concentrations on the SDSU campus.</td>
<td>05043</td>
<td>222124</td>
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Master of Business Administration Degree and Juris Doctor Degree  
(California Western School of Law)

General Information

The Fowler College of Business and the California Western School of Law offer a four-year concurrent program and study leading to a Master of Business Administration and Juris Doctor degree in law. The objective of the concurrent degrees program is to prepare students who are competent in both law and business administration for advanced practice in many areas where the fields converge. Both degrees must be awarded in the same semester.

Admission to the Degree Curriculum

Regulations governing admission to the university and to the Fowler College of Business are outlined in Part Two of this bulletin.

The concurrent degree program requires separate application to each institution and admission to each institution. Admission decisions are made independently by San Diego State University and California Western School of Law; admission to one institution does not imply admission to the other.

The coordinators for the concurrent degree program in business administration and law are the director of graduate business programs, San Diego State University, and the associate dean, California Western School of Law.

Specific Requirements for the MBA/JD Concurrent Degree  
(Major Code: 05011) (SIMS Code: 221720)

**Fowler College of Business**  
(39-45 Units—Including up to 12 units transferred from California Western School of Law)

Between 30 to 33 of the total units required must be completed in residence at San Diego State University. Up to 12 units from California Western School of Law will be accepted for transfer credit for programs of study.

The requirements for the degree are as follows:

1. Complete the following core of seven courses. (21 units)
   - B A 623 Statistical Analysis (3)
   - B A 624 Organizational Behavior and Leadership (3)
   - B A 625 Financial and Management Accounting (3)
   - B A 626 Business Economics (3)
   - B A 627 Marketing (3)
   - B A 628 Operations and Supply Chain Management (3)
   - B A 629 Financial Management (3)

2. B A 630 Business Strategy (3)
3. Complete six to nine units of business electives (depending on course waivers).
4. Complete a culminating experience. (3 units)
   - B A 795 Business Consulting (3)
   - B A 796 Integrative Business Analysis (3)
   - B A 799A Thesis (3) Cr/NC/RP

**California Western School of Law**  
(77 Units)

- Civil Procedures I and II (6)
- Constitutional Law I (3)
- Contracts I and II (6)
- Criminal Law (3)
- Criminal Procedure I (3)
- Evidence (4)
- Legal Process (0)
- Legal Skills I, II, III (6)
- Professional Responsibility (2)
- Property I and II (6)
- Torts I and II (6)
- Internship (5)
- Electives: 27 units

The specific sequence of courses over the four year period is listed in the admissions material. Students attend the schools in the following pattern:

- Year 1 California Western School of Law only
- Year 2 San Diego State University
- Year 3 Both schools
- Year 4 Both schools

Concentration in Financial and Tax Planning  
(Major Code: 05043) (SIMS Code: 222124)
Master of Business Administration Degree and Juris Doctor Degree
(Thomas Jefferson School of Law)

General Information
The Fowler College of Business and the Thomas Jefferson School of Law offer a four-year concurrent program and study leading to a Master of Business Administration and Juris Doctor degree in law. The objective of the concurrent degrees program is to prepare students who are competent in both law and business administration for advanced practice in many areas where the fields converge. Both degrees must be awarded in the same semester.

Admission to the Degree Curriculum
Regulations governing admission to the university and to the Fowler College of Business are outlined in Part Two of this bulletin.

The concurrent degree program requires separate application to each institution and admission to each institution. Admission decisions are made independently by San Diego State University and Thomas Jefferson School of Law; admission to one institution does not imply admission to the other.

The coordinators for the concurrent degree program in business administration and law are the director of graduate business programs, San Diego State University, and the associate dean, Thomas Jefferson School of Law.

Specific Requirements for the MBA/JD Concurrent Degree
(Major Code: 05011) (SIMS Code: 221721)

Fowler College of Business
(39-45 Units—including up to 12 units transferred from Thomas Jefferson School of Law)

Between 30 to 33 of the total units required must be completed in residence at San Diego State University. Up to 12 units from Thomas Jefferson School of Law will be accepted for transfer credit for programs of study.

The requirements for the degree are as follows:

1. Complete the following core of seven courses. (21 units)
   - B A 623 Statistical Analysis (3)
   - B A 624 Organizational Behavior and Leadership (3)
   - B A 625 Financial and Management Accounting (3)
   - B A 626 Business Economics (3)
   - B A 627 Marketing (3)
   - B A 628 Operations and Supply Chain Management (3)
   - B A 629 Financial Management (3)

Subject to a limit of two courses, the requirement to complete individual core courses B A 623 to 629 may be waived by the director of graduate business programs if an equivalent course has been completed. Equivalency is determined by course content, institution at which course was taken, grade received, and time since course was taken. Current students are required to enroll in graduate courses and may not satisfy core course requirements by enrolling in undergraduate equivalency courses.

2. B A 630 Business Strategy (3)

3. Complete six to nine units of business electives (depending on course waivers).

4. Complete a culminating experience. (3 units)
   - B A 795 Business Consulting (3)
   - B A 796 Integrative Business Analysis (3)
   - B A 799A Thesis (3) Cr/NC/RP

Electives: 14 units

The specific sequence of courses over the four year period is listed in the admissions material. Students attend the schools in the following pattern:

Year 1 Thomas Jefferson School of Law only
Year 2 San Diego State University
Year 3 Fowler College of Business only
Year 4 Both schools

Master of Business Administration Degree and Master of Arts Degree in Latin American Studies

General Information
The Fowler College of Business and the Center for Latin American Studies offer a three-year concurrent program study leading to a Master of Business Administration and a Master of Arts in 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 director of graduate programs in the Fowler College of Business.

Admission to the Degree Curriculum
Since this program combines disparate disciplines, applicants are required to submit GMAT or GRE 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. Students in the concurrent degree program are expected to be full time so that all requirements will be satisfied in an acceptable time.

Advancement to Candidacy
All students must meet the general requirements for advancement to candidacy as described in Part Four of this bulletin. In addition, (1) the student must complete with a grade of B (3.0) or better, either Spanish 302 (or its equivalent) or Portuguese 401 (or its equivalent), or three units of 500-level or graduate coursework in Spanish, or pass the American Council on the Teaching of Foreign Languages (ACTFL) oral proficiency examination in either Spanish or Portuguese with a score of 2.0 or above; (2) all core courses in business and Latin American studies must be completed prior to advancement in any core course; (3) the student must have been recommended for advancement by the combined advisory committee; (4) the student must have a thesis proposal approved by the combined faculty advisory committee.

Upon advancement to candidacy, the student will enroll in B A 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 M.B.A. and M.A. degrees.
specific requirements for the MBA/MA degree
(Major Code: 05011) (SIMS Code: 992001)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Four of this bulletin, the student must complete an officially approved course of study consisting of 63 units as outlined below.

1. The college expects students entering the Master of Business Administration and Master of Arts in Latin American Studies to be proficient in several areas. These include proficiency in statistics, mathematical skills, basic economics and in the use of personal computers, including spreadsheets and word processing. The students are responsible for ensuring that they possess these skills before beginning the program.

2. Complete the following core of seven courses. (21 units):
   - B A 623 Statistical Analysis (3)
   - B A 624 Organizational Behavior and Leadership (3)
   - B A 625 Financial and Management Accounting (3)
   - B A 626 Business Economics (3)
   - B A 627 Marketing (3)
   - B A 628 Operations and Supply Chain Management (3)
   - B A 629 Financial Management (3)

Subject to a limit of two courses, the requirement to complete individual core courses B A 623 to 629 may be waived by the director of graduate business programs if an equivalent course has been completed. Equivalency is determined by course content, institution at which course was taken, grade received, and time since course was taken. Current students are required to enroll in graduate courses and may not satisfy core course requirements by enrolling in undergraduate equivalency courses.

3. B A 630 Business Strategy (3)

4. Complete 15 units in Business Administration to include:
   - FIN 654 Seminar in International Business Finance (3)
   - MGT 710 Seminar in World Business Environment (3)
   - MGT 723 Seminar in International Strategic Management (3)
   - MGT 745 Seminar in Corporate Innovation and Entrepreneurship (3)
   - MKTG 769 Seminar in International Marketing (3)

5. Complete 24 units in courses of Latin American content, including the following required courses:
   - LATAM 601 Seminar on Methodology of Latin American Studies (3)

The remaining 18 units selected from the following list of courses:

Latin American Studies

- LATAM 550 Mexican-US Border from a Latin American Perspective (3)
- LATAM 580 Special Topics* (1-4)
- LATAM 696 Experimental Topics* (3)
- LATAM 750 Seminar: Study in Latin America (3)
- LATAM 795 Latin American Studies Internship (3) Cr/NC
- LATAM 797 Research (1-3) Cr/NC/RP

Anthropology

- ANTH 520 Ethnographic Field Methods (3)
- ANTH 529 Urban Anthropology (3)
- ANTH 531 Methods in Applied Anthropology (3)
- ANTH 533 Race, Ethnicity, and Identity* (3)
- ANTH 582 Regional Anthropology* (3)
- ANTH 583 Topical Anthropology* (3)
- ANTH 605 Seminar in Applied Anthropology (3)

Economics

- ECON 565 North American Economic Relations (3)
- ECON 720 Seminar in Development and Planning* (3)

History

- HIST 550 Colonial Mexico (3)
- HIST 551 Modern Mexico (3)
- HIST 558 Latin America in World Affairs (3)
- HIST 580 Topics in the History of War and Violence* (3)
- HIST 640 Directed Readings in Latin American History (3)

Journalism and Media Studies

- JMS 574 International Advertising (3)
- JMS 701 Seminar: Mass Communication Problems (3)

Political Science

- POL S 562 Religion and Politics in Comparative Perspective (3)
- POL S 564 Political Ecology of Latin America (3)
- POL S 565 Nations and Nationalism (3)
- POL S 566 Political Change in Latin America (3)
- POL S 567 Political Systems of Latin America (3)
- POL S 568 Mexican Politics (3)
- POL S 661 Seminar in the Political Systems of the Developing Nations* (3)
- POL S 667 Seminar in Latin American Political Systems (3)

Portuguese

- PORT 535 Brazilian Literature (3)

Sociology

- SOC 522 The Family in Comparative and Cross-Cultural Perspectives (3)
- SOC 554 Sociology of the United States-Mexico Transborder Populations and Globalization (3)

Spanish

- SPAN 602 Foundations and Research Methods of Hispanic Linguistics (3)
- SPAN 606 Spanish American Literature: Independence to Present (3)
- SPAN 751 Seminar in Realism* (3)
- SPAN 752 Seminar in Literature and Culture of the Fin-de-Siècle (3)
- SPAN 760 Seminar in Reading in the Transatlantic Imaginary (3)

California Western School of Law

Students may take two courses from California Western School of Law with the approval of the Latin American Studies graduate adviser. Students must apply to enroll under the provisions of the affiliation agreement with the California Western School of Law.

- * Acceptable when of relevant content; check with the Latin American Studies graduate adviser before enrolling. Students must apply to enroll under the provisions of the affiliation agreement with the California Western School of Law.

6. The student must complete MGT 797 (Research) or LATAM 797 (Research) in addition to B A 799A (Thesis). The thesis in business administration will treat a Latin American related topic and will be supervised by a business faculty with international business expertise and at least one faculty member from the Latin American studies 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.

A Master of Engineering degree is offered for students who are interested in a career in engineering with a business/management emphasis. For course requirements consult Engineering in this section of the bulletin.
Courses Acceptable for the Master of Business Administration and the Master of Science Degree Programs (B A)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

GRADUATE COURSES

B A 623. Statistical Analysis (3)
Prerequisite: Classified graduate standing.
Understanding and applications of statistics for problem solving and managerial decision making. (Formerly numbered Business Administration 652.)

B A 624. Organizational Behavior and Leadership (3)
Prerequisite: Classified graduate standing.
Study of individuals and groups within an organizational context. Topics include leadership, individual differences, organizational design, group processes and characteristics, organizational processes and practices; and influence of these on individual, group, and organizational effectiveness. (Formerly numbered Business Administration 651.)

B A 625. Financial and Management Accounting (3)
Prerequisite: Classified graduate standing.
Financial and management accounting for decision making and control in profit-directed organizations. Terminology, concepts, frameworks, and tools used to understand and analyze the financial consequences of business activities. Not open to students with credit in Business Administration 650.

B A 626. Business Economics (3)
Prerequisite: Classified graduate standing.
Microeconomic and macroeconomic environments of business. Assessing and forecasting the impact of market structure, economic climate, and governmental policies on pricing, operations, and competitive strategy. Not open to students with credit in Business Administration 653.

B A 627. Marketing (3)
Prerequisite: Classified graduate standing.
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. (Formerly numbered Business Administration 655.)

B A 628. Operations and Supply Chain Management (3)
Prerequisite: Classified graduate standing.
Managerial concepts and quantitative methods associated with the design, execution, and management of operations and supply chain systems. (Formerly numbered Business Administration 662.)

B A 629. Financial Management (3)
Prerequisite: Classified graduate standing.
Explore role of finance in a shareholder value based framework. Financial analysis and planning, investment, capital structure, financial markets, capital raising and capital disbursement decisions, valuation, and corporate restructuring. Not open to students with credit in Business Administration 665.

B A 630. Business Strategy (3)
Prerequisite: Business Administration 624, 625, 626, 627, 628, 629.
Contemporary frameworks used in environmental and industry analysis, organizational analysis, strategy formulation and implementation. Managerial issues from the view point of top managers, based on a long-term and multifunctional perspective of organizations and their environments.

B A 780. Field Studies in Business (1-3) Cr/NC
Prerequisite: Completion of MBA core.
Application of business concepts to real world organizations. Students work under supervision of a faculty member to perform a project utilizing theories and principles from previous business coursework. Maximum credit six units.

B A 795. Business Consulting (3)
Prerequisite: Advancement to candidacy and completion of MBA core.
Strategic analysis of business problems in a consulting context. Problem definition analysis and prioritization of solution mechanisms. Preparation for comprehensive examination for students in the M.B.A. program under Plan B.

B A 796. Integrative Business Analysis (3)
Prerequisite: Advancement to candidacy.
Integrative business analysis through cases and simulations. Preparation for the comprehensive examination for students in the M.B.A. program (Plan B).

B A 798. Special Study (1-3) Cr/NC/RP
Prerequisite: Consent of staff; to be arranged with Director of Graduate Business Programs and instructor.
Individual study. Maximum credit six units applicable to a master's degree.

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

B A 799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP 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.

B A 799C. Comprehensive Examination Extension (0) Cr/NC
Prerequisite: Completion or concurrent enrollment in degree program courses.
Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.

Courses Acceptable for the Master of Business Administration Degree for Executives (B A)

GRADUATE COURSES

B A 601. Organizational Behavior for Executives (3)
(Offered only in the College of Extended Studies)
Role of the manager in designing organizations for effectiveness with emphasis on organizational theory and organizational behavior.

B A 602. Statistics for Business Decisions (3)
(Offered only in the College of Extended Studies)
Statistics and production operations management. Data analysis, central tendency, and variability, probability, distributions, sample inference, association analysis. Applications in engineering, manufacturing and service, and an overview of decision theory, queuing, total quality control, and project management.

B A 603. Executive Financial Accounting (2)
(Offered only in the College of Extended Studies)
Prerequisite: Admission to M.B.A. for Executives program.
Accounting procedures and judgments underlying corporate financial statements; ability to read and analyze these statements; make inferences about financial stability, likelihood of success, and other important attributes of various business entities.

B A 604. Executive Managerial Accounting (2)
(Offered only in the College of Extended Studies)
Prerequisite: Admission to M.B.A. for Executives program.
Accounting information for internal decision making purposes to include cost measurement, capacity management, activity based costing, activity based management, production costing, quality costing, pricing, CVP analysis, budgeting, performance evaluation, transfer pricing, and compensation.

B A 605. Managerial Marketing (2)
(Offered only in the College of Extended Studies)
The marketing function in an organization. Managerial activities of marketing including market analysis, target market selection and design of the organization's marketing program.

B A 615. Strategic Financial Management (3)
(Offered only in the College of Extended Studies)
Provides a framework for financial decision making. Covers relevant modern theory and emphasizes role of finance in corporate strategy. Topics include financial analysis and planning, investment, capital structure and dividend decisions and valuation and corporate restructuring. Not open to students with credit in Business Administration 665.
B A 616. Competitive Analysis (3)
(Offered only in the College of Extended Studies)
Competition in typical unregulated product or service markets. Competitive forces in such markets, and impact of these forces on economic profits, rates of return, and relative market-shares of competing firms. Not open to students with credit in Business Administration 653.

B A 700. Business in the Global Environment (3)
(Offered only in the College of Extended Studies)
Evolution of multinational corporations, management of organizations in global environment, and marketing and management implications of competition in international arena.

B A 701. Executive Entrepreneurship (3)
(Offered only in the College of Extended Studies)

B A 702. Social Responsibility: Legal and Ethical Environment of Business (3)
(Offered only in the College of Extended Studies)
Role of the manager in dealing in a socially responsible and ethical manner with internal and external constituencies.

B A 703. Strategic Management (3)
(Offered only in the College of Extended Studies)
Corporate and business level strategic decision making. Topics include industry and environmental analysis, strategy implementation, strategic planning systems. Case descriptions of actual company situations serve as basis for analysis and recommendations.

B A 705. Marketing Strategy (2)
(Offered only in the College of Extended Studies)
Development, implementation, and evaluation of marketing strategy and plans. Role of marketing planning, analysis and control; contributions and implications of marketing to corporate strategy. Strategies for attaining competitive advantage. Contemporary marketing planning tools and techniques.

B A 707. Executive Seminar in Negotiations (2)
(Offered only in the College of Extended Studies)

B A 709. Seminar in the Global Financial Environment (3)
(Offered only in the College of Extended Studies)
Develops understanding of world economy and illustrates impact of financial environment on decision making process of business managers. How corporations respond to changing economic forces and/or historical governmental policies.

B A 710. Executive Leadership (3)
(Offered only in the College of Extended Studies)
Theoretical and empirical literature pertaining to study and assessment of leadership skills. Process of organizational change and development.

B A 711. Seminar in Contemporary Challenges (1-5)
(Offered only in the College of Extended Studies)
Challenges facing managers of organizations in modern society: organizational, human resources, operational, economic, environmental, political, international, and technological issues. See Class Schedule for specific content. Maximum credit five units applicable to a master's degree.

B A 790. Directed Readings in Business Administration (3) Cr/NC
(Offered only in the College of Extended Studies)
Preparation for the comprehensive examination for students in the M.B.A. for Executives program (Plan B).
Accountancy
In the Charles W. Lamden School of Accountancy
In the Fowler College of Business

OFFICE: Student Services East 2411
TELEPHONE: 619-594-5070 / FAX: 619-594-3675
E-MAIL: accounting@sdsu.edu

Faculty
Damon M. Fleming, Ph.D., Professor of Accountancy, Director of School
John C. Anderson, Ph.D., Professor of Accountancy
C. Janie Chang, Ph.D., Professor of Accountancy
The Vern E. Odmark Chair in Accountancy
(Graduate Adviser)
Damon M. Fleming, Ph.D., Professor of Accountancy
(Graduate Adviser)
Gary M. Grudzinski, Ph.D., Professor of Accountancy
Victoria Krivogorsky, Ph.D., Professor of Accountancy
Nathan A. Oestreich, Ph.D., Professor of Accountancy
Hung C. Chan, Ph.D., Associate Professor of Accountancy
David DeBoskey, Ph.D., Associate Professor of Accountancy
(BMACC Adviser)
Steven L. Gill, Ph.D., Associate Professor of Accountancy
(Graduate Adviser)
Gun-Ho Joh, Ph.D., Associate Professor of Accountancy
Brett S. Kawada, M.Acc., Assistant Professor of Accountancy
Yan Luo, Ph.D., Assistant Professor of Accountancy
Jundong Wang, 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, widely recognized throughout the country for the breadth of his research and his technical thoroughness, held the chair from 1984 until his retirement in 2006. Dr. C. Janie Chang, recognized for research and teaching was awarded the chair in fall 2006.

Master of Science Degree in Accountancy

General Information
The objective of the Master of Science degree program in accounting 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: accounting information systems; financial reporting, 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. The M.S. degree may also prepare students for a teaching career or admittance into a doctoral program.

Admission to the Degree Curriculum
In addition to meeting the requirements for classified graduate standing in the university and admission to the Fowler College of Business, as described above, and in Part Two of this bulletin, the student must have satisfactorily completed the following courses or their equivalent:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>BA 623</td>
<td>Statistical Analysis</td>
<td>3</td>
</tr>
<tr>
<td>BA 624</td>
<td>Organizational Behavior and Leadership</td>
<td>3</td>
</tr>
<tr>
<td>BA 625</td>
<td>Financial and Management Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BA 626</td>
<td>Business Economics</td>
<td>3</td>
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<tr>
<td>(or ECON 101 and ECON 102)</td>
<td></td>
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</tr>
<tr>
<td>BA 629</td>
<td>Financial Management</td>
<td>3</td>
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</tbody>
</table>

Students also need an English writing and/or composition course at a university where English is the primary language of instruction, and any other course deficiencies as required by a graduate adviser in the School of Accountancy.
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. The seven year requirement may be waived by the School of Accountancy adviser.
Notice of admission to a curriculum with classified graduate standing will be sent to the student only upon the recommendation of the Fowler College of Business and the approval of the dean of the Division of Graduate Affairs.

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

Specific Requirements for the Master of Science Degree in Accountancy
(Major Code: 05021) (SIMS Code: 221909)
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 Four of this bulletin, the student must complete a graduate program of at least 30 approved units including at least 21 units in 600- and 700-numbered courses. Of the 30 units, at least 15 units must be in accountancy courses at San Diego State University. At least 12 units of accountancy courses must be numbered 650 and above (in special cases, nine units with adviser approval).
Under Plan A, Business Administration 799A, Thesis, is required. Under the optional Plan B, a comprehensive examination and three units of additional coursework may be substituted for the thesis requirement.
Accountancy 620, Financial Measurement and Reporting; Accountancy 621, Accounting Information Systems; Accountancy 624, Tax for Managers; Accountancy 625, Managerial Analysis and Financial Reporting; and Accountancy 626, Auditing and Assurance Services, are required unless the student has completed the equivalent course(s) as a part of their undergraduate preparation. If required, up to three of these courses (nine units) may be accepted toward the 30 approved units for the graduate program.
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:

**Specializations**

<table>
<thead>
<tr>
<th>Accounting Information Systems</th>
<th>05021</th>
<th>221915</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Reporting</td>
<td>05021</td>
<td>221916</td>
</tr>
<tr>
<td>Taxation</td>
<td>05021</td>
<td>221917</td>
</tr>
</tbody>
</table>

For regulations concerning grade point average, final approval for the granting of the degree, award of the degree, and diplomas, see the section entitled “Requirements for the Master’s Degree.” in Part Four of this bulletin.

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**BS/MS 4+1 Degree Program (BMACC)**

The BS/MS 4+1 degree program (BMACC) is for students who plan to pursue professional accounting careers in public accounting firms, corporations, and not-for-profit and government organizations. Students must successfully complete 150 units to be awarded simultaneously the B.S. degree in Business Administration, Accounting, and the M.S. degree in Accountancy.

**Specific Requirements for the BS/MS 4+1 Degree Program (BMACC)**

(Major Code: 05021) (SIMS Code: 221913)

Students must apply and be admitted to the BS/MS 4+1 degree program (BMACC). All students must have a satisfactory score on the Graduate Management Admissions Test, a minimum overall GPA of 2.85, a minimum SDSU GPA of 2.85, and a minimum upper division SDSU Fowler College of Business GPA of 2.85. Students may apply for the program at any time during their undergraduate studies after completing at least two upper division core accounting courses (must include Accountancy 331) with a minimum overall GPA of 2.85 among the completed courses. (upper division accounting courses include Accountancy 331, 332, 333, 334, 431, 432).

Students attain graduate status when they have earned at least 120 units towards the completion of the BMACC program. No more than nine units may be in 500-level courses to meet the requirements for the master’s program. At least 15 units of 600-, 700-, and 700-numbered courses must be in accounting courses (to include Accountancy 790) and must include at least 12 units in courses numbered 650 and above (in special cases, nine units with adviser approval). Students must achieve at least a 3.0 average in the courses numbered 500 and above and specified on their official program for the 30 unit master’s degree. Courses numbered 500 and above must be completed within seven years of the first course completed on the master’s degree program. If for any reason a student does not satisfactorily complete the requirements for the Master of Science in Accountancy degree, they will be awarded the B.S. degree in Business Administration in Accounting, upon completion of the requirements for the B.S. degree.

**Courses Acceptable for Master’s Degree Program in Accountancy (ACCTG)**

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

**UPPER DIVISION COURSES**

**ACCTG 501. Advanced Financial Accounting (3)**

Prerequisites: Minimum grade of C in Accountancy 334. **Proof of completion of prerequisites required:** Copy of transcript. Advanced financial accounting topics. Partnerships, consolidations, foreign currency transactions and financial statements, accounting for derivatives and hedging, accounting for bankruptcy and reorganizations.

**ACCTG 503. Federal Taxation of Individuals (3)**

Prerequisites: Accountancy 201 and 202. Approved upper division business major, business minor, or other approved major. **Proof of completion of prerequisites required:** Copy of transcript. Taxation of individuals, including income, deductions, credits, social security taxes, and property transactions.

**ACCTG 505. Fraud Examination (3)**

Prerequisite: Accountancy 431 or 626. **Proof of completion of prerequisite required:** Copy of transcript. Skills and tools for auditors, consultants, tax professionals, managers. Techniques and technologies for fraud investigation and interviewing. Case analysis, research of public records, ethical decision making for accountants. Service learning project.

**ACCTG 508. Accounting for Not-For-Profit Organizations (3)**

Prerequisite: Minimum grade of C in Accountancy 326 or 331. **Proof of completion of prerequisite required:** Copy of transcript. Principles of modified accrual accounting in state and local governmental units, hospitals, colleges, and universities. Budgetary accounting, appropriations, encumbrances, internal controls, and auditing procedures.

**ACCTG 522. International Financial Reporting (3)**

Prerequisites: Accountancy 330W, minimum grade of C in Accountancy 334 (or Accountancy 620 and 625). **Proof of completion of prerequisites required:** Copy of transcript. Accounting convergence, IASB-FASB joint projects. US and international financial reporting issues and standards.

**ACCTG 596. Contemporary Topics in Accounting (1-3)**

Prerequisites: Business major approved by the Fowler College of Business and consent of instructor. 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 596, 496, 596 courses applicable to a bachelor’s degree. Credit for 596 and 696 applicable to a master’s degree with approval of the graduate adviser.

**GRADUATE COURSES**

**ACCTG 620. Financial Measurement and Reporting (3)**

Prerequisite: Business Administration 625. Measurement concepts and mechanics to translate global business transactions into principal financial statements using U.S. and international accounting standards. Revenue recognition, operating assets, investments, debt and equity financing, compensation, EPS, and cash flows.

**ACCTG 621. Accounting Information Systems (3)**

Prerequisite: Business Administration 625. Application of accounting information systems to attain organizational objectives, improve planning and control at all levels of the organization. Systems analysis, design methodologies, tools, control frameworks and use of technologies in information systems.

**ACCTG 624. Tax for Managers (3)**

Prerequisite: Business Administration 625. Federal income tax law that affects management decisions in a framework of ethical tax planning and risk assessment.

**ACCTG 625. Managerial Analysis and Financial Reporting (3)**

Prerequisite: Business Administration 625. Measurement concepts and mechanics to translate business transactions into management and financial reporting information. Cost control and budgeting, inventory, operational assets, leases, deferred taxes, and strategic analysis.

**ACCTG 626. Auditing and Assurance Services (3)**

Prerequisites: Accountancy 620 and 621. Duties, responsibilities, and ethics of the auditor; auditor’s reports and procedures for evaluation of financial statements. Compilation and review standards for assurance services provided to non-public companies.
ACCTG 630. Ethics in Accounting (3)
Prerequisite: Accountancy 620.
Ethical reasoning and implications for accounting professionals; ethical decision process and professional judgment; professional codes of conduct from the AICPA, IMA, IIA, etc.; the professional accountant’s role in corporate governance and ethical management; audit responsibilities and fraud, including legal and regulatory obligations; current ethical issues facing the accounting profession.

ACCTG 650. Tax Research and Practice (3)
Prerequisite: Accountancy 352, 503, or 624.
Tax research methodology; statutory, administrative, and judicial sources of tax law. Tax practitioner regulations, responsibilities, and ethics to include IRS Circular 230, AICPA Code of Conduct and Statements on Standards for Tax Services. Tax administration, sanctions, agreements, and disclosures.

ACCTG 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.

ACCTG 654. Seminar in Partnership Taxation (3)
Prerequisite: Credit or concurrent registration in Accountancy 650. Partnership and S corporation tax laws related to formation, operations, distributions, and liquidations. Flow-through entities in small and medium sized business environments.

ACCTG 655. Tax Planning for Individuals (3)
Prerequisite: Credit or concurrent registration in Accountancy 650. Selected complex tax laws related to individuals and sole proprietorship businesses, sales and exchanges of property, tax deferred transactions in property, accounting periods and methods, and personal deductions.

ACCTG 656. California and Multistate Taxation (3)
Prerequisite: Credit or concurrent registration in Accountancy 650. California taxation of individuals, corporations, and other business entities. Treatment of multistate transactions of business organizations and out-of-state transactions of California residents.

ACCTG 657. Accounting for Income Taxes (3)
Prerequisites: Undergraduate degree in accounting or Accountancy 620 and 624. Financial accounting for income taxes. Accounting methods and periods for Federal income tax purposes.

ACCTG 658. 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.

ACCTG 660. Seminar in Accounting Theory (3)
Prerequisite: Accountancy 620. Theories and concepts underlying global financial reporting. Professional research of authoritative pronouncements issued by the FASB, SEC, and other accounting regulators. Topics include accounting standards setting, measurement, market efficiency, disclosure, earnings quality, professional judgment.

ACCTG 661. Seminar in International Accounting (3)
Prerequisite: Business Administration 625. Current financial reporting practices of business entities engaged in international activities; theories and concepts that underlie development of accounting standards to include cultural and professional dimensions, accounting clusters.

ACCTG 663. Financial Statement Analysis (3)
Prerequisite: Business Administration 625. Illustrative cases and problems to analyze methods for communicating information about financing and operating activities of corporate firms, and techniques for evaluating the information.

ACCTG 670. Seminar in Assurance Services (3)
Prerequisite: Accountancy 431 or 626. Selected conceptual issues in assurance services.

ACCTG 673. Accounting Information Systems (AIS) Development (3)
Prerequisite: Accountancy 621. AIS theories, databases, and internal controls in designing, maintaining, and enhancing business processes and systems. Hands-on experience to develop skills with EXCEL, ACCESS, and/or other integrated systems. (Formerly numbered Accountancy 575.)

ACCTG 675. Seminar in Accounting Information Systems Audit and Control (3)
Prerequisite: Accountancy 673 or Management Information Systems 687 with a grade of B or better. Risk assessment and management in accounting systems, including impact on clients’ business and audit functions, external and internal auditor issues, internal controls in computerized environments, issues related to Sarbanes-Oxley Act, and application of computer-assisted audit techniques (CAATs) using current audit software.

ACCTG 680. Seminar in Managerial Accounting (3)
Prerequisite: Business Administration 625. Managerial cost accounting concepts and procedures, including budgetary planning, cost control, advisory functions, measurement of divisional profitability, product pricing, and investment decisions.

ACCTG 681. Seminar in Regulation and Corporate Governance in Accounting (3)
Prerequisite: Business Administration 625. Risk assessment and management in accounting systems, including impact on clients’ business and audit functions, external and internal auditor issues, internal controls in computerized environments, issues related to Sarbanes-Oxley Act, and application of computer-assisted audit techniques (CAATs) using current audit software.

ACCTG 687. Research (3) Cr/NC/RP
Prerequisite: Advancement to candidacy. Research in the area of accountancy. Maximum credit six units applicable to a master’s degree.

ACCTG 696. Seminar in Selected 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.

ACCTG 729. Current Issues in Accounting and Auditing (3)
Prerequisite: Accountancy 620. Controversial theories and practices in relation to changing accounting environment. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master’s degree.

ACCTG 790. Case Studies in Accounting Practice (3)
Prerequisite: Advancement to candidacy. Problem diagnosis, information analysis and evaluation, and decision making for contemporary issues in accounting information systems, auditing, financial reporting, management accounting, and taxation using case studies. Preparation for comprehensive examination for students in the M.S. degree in Accountancy under Plan B.

ACCTG 797. Research (3) Cr/NC/RP
Prerequisite: Advancement to candidacy. Research in the area of accountancy. Maximum credit six units applicable to a master’s degree.

ACCTG 798. Special Study (1-3) Cr/NC/RP
Prerequisite: Consent of staff; to be arranged with department chair and instructor. Individual study. Maximum credit six units applicable to a master’s degree.
Finance
In the Fowler College of Business

OFFICE: Student Services East 3356
TELEPHONE: 619-594-5323 / FAX: 619-594-3272
http://cbaweb.sdsu.edu/finance

Faculty

- Kamal M. Haddad, Ph.D., Professor of Finance, Chair of Department
- Xudong An, Ph.D., Professor of Finance
- Swaminathan G. Badrinarth, Ph.D., Professor of Finance
- Andrew Q. Do, Ph.D., Professor of Finance (Graduate Adviser, Real Estate)
- David P. Ely, Ph.D., Professor of Finance and Associate Dean for Academic Affairs of the Fowler College of Business
- Jaemin Kim, Ph.D., Professor of Finance
- Mehdi Salehizadeh, Ph.D., Professor of Finance
- Moon H. Song, Ph.D., Professor of Finance (Graduate Adviser)
- Nikhil P. Varaiya, Ph.D., Professor of Finance and Director of Graduate Programs of the Fowler College of Business
- Stefano Gubellini, Ph.D., Associate Professor of Finance
- Janu J. Juneja, Ph.D., Associate Professor of Finance
- Marie-Eve Lachance, Ph.D., Associate Professor of Finance
- Babak Lotfaliei, Ph.D., Assistant Professor of Finance
- Patrick S. Smith, Ph.D., Assistant Professor of Finance
- Ning Tang, Ph.D., Assistant Professor of Finance
- Timothy E. Trombley, Ph.D., Assistant Professor of Finance

Executive Financial Planner Advanced Certificate
(Offered through the College of Extended Studies)
(SIMS Code: 226602)

The advanced certificate is intended for students who wish to provide advanced financial planning advice to individuals, families and partners. The program is intended for experienced financial, legal, or accounting professionals who enroll in the Executive Financial Planner Advanced Certificate Program. Offered jointly by the Fowler College of Business and the College of Extended Studies, this advanced certificate is registered with the Certified Financial Planner Board of Standards, Inc., as a program intended to meet their education requirements to sit for the CFP® Certification Examination.

Applicants for any type of graduate study at San Diego State University must: (a) hold an acceptable baccalaureate degree earned at an institution accredited by a regional accrediting association, or the applicant has completed equivalent academic preparation as determined by the graduate dean; (b) have attained a grade point average of at least 2.85 in an acceptable baccalaureate degree, or at least 2.85 in the last 60 semester (90 quarter) units attempted, or hold an acceptable post-baccalaureate degree earned at an institution accredited by a regional accrediting association; (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. Applicants from foreign countries see International (Foreign) Student Admission Requirements.

Admission to the Executive Financial Planner Advanced Certificate program does not constitute admission to the master’s degree programs of the Fowler College of Business, which has additional requirements including qualifying scores on the Graduate Management Admissions Test (GMAT).

The advanced certificate requires 18 units; however, the program director may waive up to six units based upon prior coursework and professional credentials. Prerequisites can be waived by the instructor or program director, based upon a student's prior coursework and experience.

Certificate Course Requirements (18 units)

- ACCTG 503 Federal Taxation of Individuals (3)
- FIN 522 Individual Insurance Management (3)
- FIN 590 Personal Financial Planning Practicum (3)
- FIN 651 Seminar in Investments (3)
- FIN 657 Financial and Retirement Planning (3)
- FIN 705 Estate Planning (3)

Students must earn a 3.0 average in these classes in order to earn the certificate. Classes with a grade below a “C” (2.0) may not be included. Students admitted to a master’s program may use certificate credit toward a graduate degree in business (Master of Business Administration or Master of Science in Business Administration) with the permission of their graduate adviser.

The adviser for the certificate is Dr. Thomas M.D. Warschauer, Department of Finance. All course units may be used for business majors and concentrations where applicable and approved by the student’s graduate adviser.

Courses Acceptable for Master’s Degree Programs in Business Administration (FIN)

- Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

FIN 522. Individual Insurance Management (3)
Prerequisites: Undergraduate: Completion of lower division requirements for the major. Graduate: Completion of prerequisite core.
Proof of completion of prerequisites required: Copy of transcript.

FIN 590. Personal Financial Planning Practicum (3)
Prerequisite: Undergraduate: Completion of prerequisite core.
Proof of completion of prerequisites required: Copy of transcript.

FIN 651. Seminar in Investments (3)
Prerequisites: Undergraduate: Completion of lower division requirements for the major. Graduate: Completion of prerequisite core.
Proof of completion of prerequisites required: Copy of transcript.

FIN 705. Estate Planning (3)
Prerequisite: Business Administration 323. Proof of completion of prerequisite required: Copy of transcript.

FIN 657. Financial and Retirement Planning (3)
Prerequisites: Credit or concurrent registration in Finance 589 or 657.
Proof of completion of prerequisite required: Copy of transcript.

Preparation of family financial plans using comprehensive cases and/or real financial data. Financial planning software. Counseling and communication skills, behavioral finance, client psychology, practice standards, discipline and ethics. Students may register once at the undergraduate level and may repeat with new content at the graduate level.
### GRADUATE COURSES

**FIN 596. Contemporary Topics in Finance (1-3)**  
Prerequisite: Business major approved by the Fowler College of Business and consent of instructor.  
Contemporary topics in modern finance. 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

**FIN 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.

**FIN 617. Financial Management II (3)**  
Prerequisite: Business Administration 629.  
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.

**FIN 641. Financing the Emerging Enterprise (3)**  
Prerequisite: Business Administration 629.  
Financial considerations in emerging and growing enterprises to include internal financial management, external funding sources, and dealing with venture capitalists. Emphasis on integration of theory, computer analysis, and human judgment in financial decision making.

**FIN 642. Financial Risk Management (3)**  
Prerequisite: Business Administration 629.  

**FIN 651. Seminar in Investments (3)**  
Prerequisite: Business Administration 629.  
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.

**FIN 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.

**FIN 653. Case Studies in Financial Management (3)**  
Prerequisite: Business Administration 629.  

**FIN 654. Seminar in International Business Finance (3)**  
Prerequisite: Business Administration 629.  
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.

**FIN 656. Seminar in Financial Institutions (3)**  
Prerequisite: Business Administration 629.  
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.

**FIN 657. Financial and Retirement Planning (3)**  
Prerequisite: Business Administration 629.  
Decision-making process and theory of individual financial needs. Retirement planning including Social Security. Education planning. Financial strategies that aid in meeting family goals.

**FIN 659. Decision Making in the World Economy (3)**  
Prerequisite: Classified graduate standing.  
Application of macroeconomic theory to business decision making, study of economic environment and government macroeconomic policy from a business viewpoint.

**FIN 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

**FIN 705. Seminar in Estate Planning (3)**  
Prerequisite: Business Administration 629.  
Application of valuation theory to real property and related mortgage instruments in a market context. Market definition, data collection and analysis. Value determinants and new valuation technologies. Special valuation and financing issues and cases.

**FIN 783. Seminar in Real Estate Investment and Development (3)**  
Prerequisite: Graduate standing.  
Analysis of real estate investment and development decisions by corporations, individuals and financial institutions. Market and feasibility analysis, taxation, financing and risk evaluation, portfolio considerations.

**FIN 784. Seminar in Real Estate Finance and Valuation (3)**  
Prerequisite: Graduate standing.  
Application of valuation theory to real property and related mortgage instruments in a market context. Market definition, data collection and analysis. Value determinants and new valuation technologies. Special valuation and financing issues and cases.

**FIN 797. Research (3) Cr/NC/RP**  
Prerequisite: Advancement to candidacy.  
Research in the area of finance. Maximum credit six units applicable to a master's degree.

**FIN 798. Special Study (1-3) Cr/NC/RP**  
Prerequisite: Consent of staff; to be arranged with department chair and instructor.  
Individual study. Maximum credit six units applicable to a master's degree.
Faculty
Lawrence C. Rhyne, Ph.D., Associate Professor of Management, Chair of Department (Graduate Adviser)
Beth G. Chung-Herrera, Ph.D., Professor of Management
Alex F. De Noble, Ph.D., Professor of Management
Martina Musteen, Ph.D., Professor of Management
Amy Randel, Ph.D., Professor of Management
Chamundeswari Sundaramurthy, Ph.D., Professor of Management
Karen M. Ehrrhart, Ph.D., Associate Professor of Management (Graduate Adviser)
John D. Francis, Ph.D., Associate Professor of Management
Congcong Zheng, Ph.D., Associate Professor of Management (Graduate Adviser)
Mujtaba Ahsan, Ph.D., Assistant Professor of Management
Whitney G. Fernandez, Ph.D., Assistant Professor of Management
Taekjin Shin, Ph.D., Assistant Professor of Management

Courses Acceptable for Master's Degree
Programs in Business Administration (MGT)

UPPER DIVISION COURSE
MGT 596. Advanced Topics in Management (3)
Prerequisite: Six upper division units in management. Proof of completion of prerequisites required: Copy of transcript.
Advanced special topics in management. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units applicable to a master's degree with approval of the graduate adviser.

GRADUATE COURSES
MGT 626. Competitive Analysis of Industries (3)
Prerequisite: Business Administration 624.
Concepts and tools for studying structure of industries and processes of structural change in industries. Implications of public policy decisions and competitive actions on strategy formulation are explored in several industry settings.

MGT 669. Human Resource Management (3)
Prerequisite: Business Administration 624.
Design of organizational systems for accomplishing work through individuals and groups. Strategic, legal, and ethical considerations in staffing, appraising, developing, and rewarding people at work.

MGT 672. International Human Resource Management (3)
Prerequisite: Business Administration 624.
Managing human resources in a global economy: theories, implementation, and evaluation of IHRM.

MGT 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

MGT 710. Seminar in World Business Environment (3)

MGT 721. Seminar in Group Processes and Leadership (3)
Prerequisite: Business Administration 624. Perceptions and processes in work groups. Experience in interpersonal networks, influence and rewards, stereotypes; managing differences and conflicts.

MGT 722. Seminar in Business Ethics and Social Institutions (3)
Prerequisite: Business Administration 624. Ethical and social aspects of current issues in business and society. Changing role of stakeholders including consumers, shareholders, and employees. Assessment of operation, functioning and regulation of the market system.

MGT 723. Seminar in International Strategic Management (3)
Prerequisite: Completion of MBA core or MS prerequisites. 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.

MGT 724. Entrepreneurship (3)
Prerequisite: Business Administration 624. Examination of the entrepreneurial approach; concepts, theory and techniques of managerial innovation and implementation; analysis of entrepreneurial skills.

MGT 729. Seminar in Organizational Issues (3)
Prerequisite: Business Administration 624. Issues in organizations in modern society; organization design, environmental interface, and political processes. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

MGT 734. Seminar in Business Plan Development (3)
Prerequisite: Management 724. Principles and techniques for developing a business plan.

MGT 744. Seminar in Managing the Growing Firm (3)
Prerequisite: MBA core or admission to degree curriculum for M.S. degree business administration. Problems and issues confronting entrepreneurs beyond start-up of a new venture. Focus on issues from both entrepreneur and investor perspectives.

MGT 745. Seminar in Corporate Innovation and Entrepreneurship (3)
Prerequisite: MBA core. Challenges and issues confronting organizations seeking to pursue new business opportunities. Senior management charged with the mandate of pursuing new business opportunities and employees desiring to champion new ventures under corporate umbrella.

MGT 746. Seminar in Corporate Governance (3)
Prerequisite: Classified graduate standing. Roles and interrelationships among members of corporate governance triumvirate: managers, directors, shareholders. History and theories of corporate governance, ethical obligations underlying the three roles, and case studies.
MGT 747. Seminar in Managing Technology Commercialization (3)
Prerequisite: Graduate standing.
Assessment of future commercialization potential of early stage technologies. Technology commercialization process including technology and market assessments, business models, revenue streams, licensing, and protection of intellectual property.

MGT 748. Seminar in International Entrepreneurship (3)
Prerequisite: Business Administration 624.
Challenges and issues confronting entrepreneurs seeking to pursue international business opportunities. Concepts, theory, and techniques of international entrepreneurship. Drivers of entrepreneurship and assessment of entrepreneurial conditions around the world.

MGT 790. Directed Readings in Management (3) Cr/NC
Prerequisite: Advancement to candidacy.
Preparation for the comprehensive examination for those students in the MSBA program under Plan B.

MGT 797. Research (3) Cr/NC/RP
Prerequisite: Advancement to candidacy.
Research in the area of management. Maximum credit six units applicable to a master's degree.

MGT 798. Special Study (1-3) Cr/NC/RP
Prerequisite: Consent of staff; to be arranged with department chair and instructor.
Individual study. Maximum credit six units applicable to a master's degree.
Management Information Systems
In the Fowler College of Business

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TELEPHONE: 619-594-5316 / FAX: 619-594-3675

Faculty
Bruce A. Reinig, Ph.D., Professor of Management Information Systems, Chair of Department
Robert O. Briggs, Ph.D., Professor of Management Information Systems
Murray Jennex, Ph.D., Professor of Management Information Systems
John M. Penrose, Ph.D., Professor of Management Information Systems
Alexis Koster, Ph.D., Professor of Management Information Systems
Alexis Koster, Ph.D., Professor of Management Information Systems
Yeongling Helio Yang, Ph.D., Professor of Management Information Systems
Feraidoon Raafat, Ph.D., Professor of Management Information Systems (Graduate Adviser)
Bongsik Shin, Ph.D., Professor of Management Information Systems
Theophilus Addo, Ph.D., Associate Professor of Management Information Systems, Emeritus
Aaron C. Elkins, Ph.D., Assistant Professor of Management Information Systems
Xialiu Liu, Ph.D., Assistant Professor of Management Information Systems
Ruoxuan Wang, Ph.D., Assistant Professor of Management Information Systems

Master of Science Degree in Information Systems

General Information
The objective of the Master of Science degree in information systems is to prepare students to take a senior position associated with the information systems field across all private industries and public sectors. With the broadening spectrum of the information systems field and subsequent rich set of career opportunities, there is an ongoing need to educate students so that they can take leadership positions in both established and emerging fields of information systems. To serve the student and industry needs effectively, the program is designed to balance management knowledge of business and technology, general technical knowledge in information systems, and domain knowledge in the special area selected by the student. Upon successful completion of the program, students will be competent in leading organizations in the evaluation and adoption of information systems and technologies for strategic advantage as well as in bridging the cultural and communication gaps that often exist between information systems and business function professionals.

Admission to the Degree Curriculum
In addition to meeting the requirements for classified graduate standing and the general requirements for master’s degrees as described in Part Four of this bulletin, the student must have satisfactorily completed the following courses as prerequisites:

- B A 625 Financial and Management Accounting (3)
- B A 627 Marketing (3)
- B A 628 Operations and Supply Chain Management (3)

Notice of admission with classified graduate standing will be sent to the student upon the recommendation of the Fowler College of Business and the approval of the dean of the Division of Graduate Affairs.

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

Students concurrently enrolled in deficiency coursework may be given permission to take the comprehensive examination prior to actual completion of all coursework. However, comprehensive examinations will not be evaluated and results will not be reported to the Division of Graduate Affairs until all deficiency coursework has been successfully completed. This may delay graduation.

Specific Requirements for the Master of Science Degree in Information Systems
(Major Code: 07021) (SIMS Code: 222335)

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 Four of this bulletin, the student must complete a graduate program of at least 36 approved units including at least 27 units in 600- and 700-numbered courses. Up to nine units of coursework may be accepted as transfer credit. Not more than a total of three units in courses Management Information Systems 797 (Research) and Management Information Systems 798 (Special Study), may be accepted for credit toward the degree. With approval of the graduate adviser, a substitute course may be allowed in place of a required course after reviewing student credentials.

Required core courses:

**IS Technology**
Nine units selected from the following courses:

- MIS 686 Enterprise Data Management (3)
- MIS 687 Business Data Communications (3)
- MIS 691 Decision Support Systems (3)
- MIS 695 Business Systems Analysis and Design (3)
- MIS 697 Project Planning and Development (3)
- MIS 752 Seminar in Supply Chain and Enterprise Resource Planning (3)

**IS Management and Analytics**
Nine units selected from the following courses:

- MIS 688 Information Systems and Strategies in Organizations (3)
- MIS 748 Seminar in Applied Multivariate Analytics (3)
- MIS 749 Business Analytics (3)
- MIS 750 Strategic Project Management (3)
- MIS 755 Information Systems Security Management (3)
- B A 623 Statistical Analysis (3)

Culminating Experience
Three units selected from the following courses:

- MIS 790 Directed Readings in Management Information Systems (3)
- B A 799A Thesis (3) Cr/NC/RP

OR

- MIS 790 Directed Readings in Management Information Systems (3)

OR

- B A 799A Thesis (3) Cr/NC/RP
Career Track (12 units)
Students select a career track and courses with the approval of the graduate adviser.

MIS 515 Intermediate Programming for Business Applications (3)
MIS 705 Communication Strategies (3)
MIS 744 Seminar in Lean Six Sigma and Baldrige Quality Management (3)
MIS 753 Global Supply Chain Management (3)
MIS 754 Seminar in Operations Strategy (3)

Career track courses may include additional department and courses from outside the Fowler College of Business with the approval of the graduate adviser.

The Master of Science degree in information systems requires Plan A, Thesis or Plan B, directed readings in information systems or a written comprehensive examination offered by the department. The program must be approved by the college and departmental adviser. For regulations concerning grade point averages, final approval for the granting of the degree, award of the degree, and diplomas, refer to the basic requirements for the master's degree as described in Part Four of this bulletin.

Open Elective (3 units)
Three units of elective graduate coursework.

Courses Acceptable for Master's Degree Program in Information Systems (MIS)
Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

MIS 515. Intermediate Programming for Business Applications (3)
Prerequisite: Management Information Systems 315 or knowledge of one computer programming language. Proof of completion of prerequisite required: Copy of transcript. Intermediate programming for business applications with Java, C#, or similar languages. Data structures, control structures, and program structures. Use of object-oriented features, classes, subclasses, and inheritance for modeling and processing of business information.

MIS 585. Fundamentals of Cybersecurity Management (3)
Prerequisite: Management Information Systems 483 or 687. Cybersecurity risks, threats, and vulnerabilities. Technologies, procedures, and techniques to assess, control, detect, and remediate threats and vulnerabilities.

MIS 596. Contemporary Topics in Management Information Systems (1-3)
Prerequisites: Business major approved by the Fowler College of Business and consent of instructor. Contemporary topics in management information systems. 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. Credit for 596 and 696 applicable to a master’s degree with approval of the graduate adviser.

MIS 615. Intermediate Programming for Business Applications (3)
Prerequisite: Management Information Systems 315 or knowledge of one computer programming language. Proof of completion of prerequisite required: Copy of transcript. Intermediate programming for business applications with Java, C#, or similar languages. Data structures, control structures, and program structures. Use of object-oriented features, classes, subclasses, and inheritance for modeling and processing of business information.

MIS 680. Information Systems Hardware and Software (3)
Prerequisite: Classified graduate standing. Managing enterprise management, IT, and applications to host, secure, and manipulate enterprise data, information, and knowledge assets to create business value. Modeling tools for analyzing and specifying data requirements.

MIS 687. Business Data Communications (3)
Prerequisite: Classified graduate standing. Deployment and management of technologies for integrating resources within and between organizations through secure data communications capabilities. Data network topologies, including wired, wireless, mobile and cloud architectures.

MIS 688. Information Systems and Strategies in Organizations (3)
Prerequisite: Classified graduate standing. Managing information to create business value. Planning, organizing, and leading information systems initiatives. Relationship of data, information, and knowledge to strategic and operational decision making. Global aspects and ethical uses of information systems.

MIS 691. Decision Support Systems (3)
Prerequisite: Completion of MBA core or MS prerequisites. Design, implementation, and integration of computerized decision support systems into business management. Problem representation, modeling, and simulation.

MIS 695. Business Systems Analysis and Design (3)
Prerequisite: Classified graduate standing. Generating business value through analysis and design of information systems to solve problems and exploit opportunities. Feasibility studies, requirements definition, process and data modeling, development and implementation strategies for information systems.

MIS 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. Credit for 596 and 696 applicable to a master’s degree with approval of the graduate adviser.

MIS 697. Project Planning and Development (3)
Prerequisite: Classified graduate standing. Project development, planning, execution, and control for information systems. Information project development life cycle, structure project planning methodology, theories, techniques, and utilization of project management technologies.

MIS 705. Communication Strategies (3)
Prerequisite: Classified graduate standing. Development of advanced written, oral, and interpersonal communication strategies for the business environment.

MIS 744. Seminar in Lean Six Sigma and Baldrige Quality Management (3)
Prerequisite: Business Administration 628. Applications of lean principles, Six Sigma methodology, and Baldrige processes for business quality, agility, improvement. Advanced concepts, methods, lean tools, statistical quality tools for process improvement.

MIS 748. Seminar in Applied Multivariate Analytics (3)
Prerequisite: Business Administration 623. 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, judgment analysis, multiple discriminant analysis, multivariate analysis of variance, and canonical correlation.
MIS 749. Business Analytics (3)
Prerequisite: Business Administration 623.
Business analytics techniques for predictive modeling and customer segmentation. Applications include churn management, business experiments, cluster segmentation, and market basket analysis.

MIS 750. Strategic Project Management (3)
Prerequisite: Business Administration 628.
Managing projects and programs to implement business strategies. Project selection, programs, and portfolios; project organization; resource conflict and resolution; stakeholder management; project team management; project risk assessment and mitigation.

MIS 752. Seminar in Supply Chain and Enterprise Resource Planning (3)
Prerequisite: Business Administration 628.
Methodology, theory, and systems to plan and control supply chain and enterprise resources. Integrated processes of sales and operations planning, corporate accounting, materials requirement, procurement, capacity planning, and warehouse management in a simulated enterprise environment.

MIS 753. Global Supply Chain Management (3)
Prerequisite: Classified graduate standing.
Advanced concepts, method, and implementation of global supply chain strategies and management; global sourcing and supply development; global logistic network and management; information technology and e-business for supply chain; supply chain design and optimization; performance metrics and measurements.

MIS 754. Seminar in Operations Strategy (3)
Prerequisite: Business Administration 628.
Strategic issues in operations and their integration with other functional areas. Includes operations strategy, product and process planning, experience curves, productivity measurements, and information technology implementation.

MIS 755. Information Systems Security Management (3)
Prerequisite: Classified graduate standing.
Information systems management. Focus on creation of a security plan for an organization to include risk analysis, security issues, security design, security plan, disaster recovery/business continuity, and threat analysis.

MIS 790. Directed Readings in Management Information Systems (3) Cr/NC
Prerequisite: Advancement to candidacy.
Preparation for the comprehensive examination for students.

MIS 797. Research (3) Cr/NC/RP
Prerequisite: Advancement to candidacy.
Research in the area of management information systems. Maximum credit six units applicable to a master’s degree.

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

For additional courses applicable to the Master of Science degree in Information Systems see:
Business Administration 623. Statistical Analysis
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Faculty
Heather L. Honea, Ph.D., Associate Professor of Marketing, Interim Chair of Department
George E. Belch, Ph.D., Professor of Marketing and Interim Dean of the Fowler College of Business
Michael A. Kartalija, Ph.D., Professor of Marketing, Emeritus
Massoud M. Saghafi, Ph.D., Professor of Marketing (International Business Graduate Adviser)
Andrew M. Baker, Ph.D., Associate Professor of Marketing
Claudiu V. Dimofte, Ph.D., Associate Professor of Marketing (MBA Graduate Adviser)
Paula C. Peter, Ph.D., Associate Professor of Marketing
Iana A. Castro, Ph.D., Assistant Professor of Marketing
Erline Cornelis, Ph.D., Assistant Professor of Marketing
Gabriel R. Gonzalez, Ph.D., Assistant Professor of Marketing

Courses Acceptable for Master's Degree Programs in Business Administration (MKTG)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

GRADUATE COURSES

MKTG 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

MKTG 729. Contemporary Issues in Marketing Theory and Practice (3)
Prerequisite: Business Administration 627.
Issues in marketing theory and practice: examination and application of contemporary theories and techniques in relation to changes in marketing environment. See Class Schedule for specific content. Maximum credit six units applicable to a master’s degree.

MKTG 761. Product Innovation Management (3)
Prerequisite: Business Administration 627.
New product development and issues related to overall management of product innovation in context of entrepreneurial opportunity, start-up ventures and existing organizations. Focus on planning, design, and implementation of marketing strategy.

MKTG 762. Seminar in Integrated Marketing Communication (3)
Prerequisite: Business Administration 627.
Theory and application of integrated marketing communication to advertising, promotions, public relations/publicity, personal selling and direct marketing (including Internet).

MKTG 763. Seminar in Sales Management (3)
Prerequisite: Business Administration 627.
Sales management and personal selling decisions and strategies in business organizations.

MKTG 766. Seminar in Marketing Research (3)
Prerequisite: Business Administration 623 and 627.
Research methods and analysis for consumer and business marketing. Research design and implementation, use of secondary data sources, qualitative research, survey research, experimentation, and data analysis using statistical software, such as SPSS.

MKTG 768. Seminar in Internet Marketing and E-Business (3)
Prerequisite: Business Administration 627.
Theory and application of marketing utilizing the Internet and associated issues of electronic commerce.

MKTG 769. Seminar in International Marketing (3)
Prerequisite: Business Administration 627.
The impact of cultural, social, political, economic, and other environmental variables on international marketing systems and the decision-making process of multinational marketing operations.

MKTG 772. Strategic Brand Management (3)
Prerequisite: Business Administration 627.
Planning, managing, and evaluating brand strategies. Theories, models, concepts, and techniques used to build, measure, and manage brand equity. Marketing decisions faced by an organization in managing brands for long-term profitability.

MKTG 779. Advanced Marketing Strategy (3)
Prerequisites: Business Administration 627 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.

MKTG 790. Directed Readings in Marketing (3) Cr/NC
Prerequisite: Advancement to candidacy.
Preparation for the comprehensive examination for those students in the MSBA program under Plan B.

MKTG 797. Research (3) Cr/NC/RP
Prerequisite: Advancement to candidacy.
Research in the area of marketing. Maximum credit six units applicable to a master's degree.

MKTG 798. Special Study (1-3) Cr/NC/RP
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 Department of Chemistry and Biochemistry
In the College of Sciences

### General Information

The Department of Chemistry and Biochemistry 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 and Biochemistry at the University of California, 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 of Chemistry and Biochemistry at SDSU provides a substantial inventory of modern chemical instrumentation in support of teaching and research. Included are systems for the performance of nearly all major types of chemical separations; several GC- and two HPLC-mass spectrometric systems; 400, 500, and 600 MHz nuclear magnetic resonance (NMR) spectrometers; three FT infrared spectrometers; ultraviolet-visible spectrometric instruments for both atomic and molecular emission and absorption studies; electrochemical instrumentation for potentiometric, voltammetric and coulometric measurements; radiochemical instrumentation; laser systems for spectroscopy, covering UV to mid-IR wavelengths, and x-ray diffractometers for both small and macromolecules. Several groups have inert-atmosphere gloveboxes for conducting research on air- and moisture-sensitive compounds. The departmental computer lab has 25 personal computers (Mac and PC) for general use, and numerous research-grade computers are housed in individual laboratories. Access is also available to accounts on the College of Sciences Molecular Sciences Cluster and at the San Diego Supercomputer Center. In-house support staff includes NMR, analytical instrument technicians, and a well-equipped shop is available for machining, plastic working, welding, and other fabrications needs.

### Admission to Graduate Study

Students applying for admission should electronically submit the university application available at [http://www.calstate.edu/apply](http://www.calstate.edu/apply) along with the $55 application fee.

In addition, admissions materials must be submitted electronically via DecisionDesk, [http://gra.sdsu.edu/decisiondesk/](http://gra.sdsu.edu/decisiondesk/), which will also handle recommendation letters. Three letters of reference are required from people who can comment on the applicant’s academic and research abilities. Refer to [http://www.chemistry.sdsu.edu/graduate/degrees.php#GradAdmission](http://www.chemistry.sdsu.edu/graduate/degrees.php#GradAdmission) for requirements for direct and indirect admission to the doctoral program and admission to Master of Science and Master of Arts programs.

The following materials should be submitted as a complete package directly to:

- **Graduate Admissions**
- **Enrollment Services**
- **San Diego State University**
- **San Diego, CA 92182-7416**

1. **Official transcripts** (in sealed envelopes) from all postsecondary institutions attended:

   - **NOTE:** Students who attended SDSU need only submit transcripts for work completed since last attendance.
   - Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

2. **GRE scores** ([http://www.ets.org SDSU institution code 4682](http://www.ets.org/))

3. **English language score**, if medium of instruction was in a language other than English ([http://www.ets.org SDSU institution code 4682](http://www.ets.org/))

### Faculty

- **William G. Tong**, Ph.D., Distinguished Professor of Chemistry and Biochemistry, Chair of Department
- **Carl J. Carrano**, Ph.D., Professor of Chemistry and Biochemistry
- **Andrew L. Cooksey**, Ph.D., Professor of Chemistry and Biochemistry
- **Douglas B. Grotjahn**, Ph.D., Professor of Chemistry and Biochemistry
- **Tom Huxford**, Ph.D., Professor of Chemistry and Biochemistry
- **William E. Stumph**, Ph.D., Professor of Chemistry and Biochemistry
- **Christal D. Sohl**, Ph.D., Assistant Professor of Chemistry and Biochemistry
- **Byron W. Purse**, Ph.D., Assistant Professor of Chemistry and Biochemistry
- **Gregory P. Holland**, Ph.D., Assistant Professor of Chemistry and Biochemistry
- **Peter van der Geer**, Ph.D., Associate Professor of Chemistry and Biochemistry
- **Manal A. Swairjo**, Ph.D., Associate Professor of Chemistry and Biochemistry
- **Dale A. Chatfield**, Ph.D., Associate Professor of Chemistry and Biochemistry
- **Thomas E. Cole**, Ph.D., Associate Professor of Chemistry and Biochemistry
- **Christopher R. Harrison**, Ph.D., Associate Professor of Chemistry and Biochemistry
- **David P. Pullman**, Ph.D., Associate Professor of Chemistry and Biochemistry
- **John J. Love**, Ph.D., Associate Professor of Chemistry and Biochemistry
- **Diane K. Smith**, Ph.D., Associate Professor of Chemistry and Biochemistry
- **B. Mikael Bergdahl**, Ph.D., Associate Professor of Chemistry and Biochemistry
- **Douglas B. Grotjahn**, Ph.D., Associate Professor of Chemistry and Biochemistry
- **Carl J. Carrano**, Ph.D., Professor of Chemistry and Biochemistry
- **William G. Tong**, Ph.D., Distinguished Professor of Chemistry and Biochemistry
- **Peter van der Geer**, Ph.D., Associate Professor of Chemistry and Biochemistry
- **Jeffrey L. Gustafson**, Ph.D., Assistant Professor of Chemistry and Biochemistry
- **Gregory P. Holland**, Ph.D., Assistant Professor of Chemistry and Biochemistry
- **Byron W. Purse**, Ph.D., Assistant Professor of Chemistry and Biochemistry
- **Christal D. Sohl**, Ph.D., Assistant Professor of Chemistry and Biochemistry

### Associateships

Graduate teaching associateships and graduate nonteaching associateships in chemistry and biochemistry are available to a limited number of qualified students. Graduate teaching associateships can be valuable for applicable degree programs, preparing students for a teaching career. Application forms and additional information may be secured from the Department of Chemistry and Biochemistry websites at [http://www.chemistry.sdsu.edu/forms](http://www.chemistry.sdsu.edu/forms) and [http://www.chemistry.sdsu.edu/graduate/degrees.php#GradAdmission](http://www.chemistry.sdsu.edu/graduate/degrees.php#GradAdmission).
Section I. 
Master's Degree Programs

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

Specific Requirements for the Master of Arts Degree
(Major Code: 19051) (SIMS Code: 772602)
In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Four 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 for master's degree programs. At least 15 of these units must be in 600- and 700-numbered courses. Chemistry 790 is required. At least 21 units of graded graduate courses (500-level or above) must be taken in at least three of the five disciplines within chemistry. These 21 units must be numbered below 790. A maximum of three units of Chemistry 791, 792, and 799A are required. A student must pass a final oral examination on the thesis.

Specific Requirements for the Master of Science Degree
(Major Code: 19051) (SIMS Code: 772601)
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 Four 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 for master's degree programs. At least 15 of these units must be in 600- and 700-numbered courses. Chemistry 790, 791, 792, and 799A are required. A student must pass a final oral examination on the thesis.

Section II. 
Doctoral Program
http://www.chemistry.sdsu.edu/chemistry/

General Information
(Major Code: 19051) (SIMS Code: 772603)
The cooperating faculties of the Department of Chemistry and Biochemistry at San Diego State University and the Department of Chemistry and Biochemistry at the University of California, San Diego, 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.

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 have taken 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 Four of this bulletin. Students 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 cooperating institutions participate in the joint doctoral program, being available for direction of research and as departmental members of joint doctoral committees.

San Diego State University:
Graduate Advisers: Thomas E. Cole (master's degree programs) Douglas B. Grotjahn (doctoral program)
Graduate Admissions: Thomas E. Cole, Douglas B. Grotjahn
Committee Members: Bergdahl, Carrano, Chatfield, Cole, Cooksy, Grotjahn, Gustafson, Harrison, Holland, Huxford, Love, Pullman, Purse, Smith, Sohl, Stumph, Tong, van der Geer

University of California, San Diego:
Vice Chair of Graduate Education: Judy Kim
Committee Members: Amaro, Baker, Bertram, Burkart, Cohen, Contingetti, Crowell, Dennis, Devaraj, Dixon, Donoghue, Dorrestein, Figueroa, Fox, Galperin, G. Ghosh, P. Ghosh, Gianneschi, Guerrero, Hermann, Hoffmann, Jennings, Joseph, Kim, Komives, Kubiak, Kummel, Lindenberg, Magde, McCammon, Molina, Molinski, Muller, Nakagawa, Nicolaou, O'connor, Opella, Paesani, Perrin, Prather, Rheingold, Sailor, Sawrey, Sinha, Tauber, Taylor, Tezcan, Theodorakis, Thiemens, Toor, Tor, Trogrler, Tsien, Tukey, Viadiu, Wang, Weare, Whitesell, Yang
Courses Acceptable for Master's and Doctoral Degree Programs in Chemistry (CHEM)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

CHEM 510. Advanced Physical Chemistry (3)
Prerequisite: Chemistry 410B. Problems in chemical thermodynamics, statistical mechanics, chemical kinetics, quantum chemistry and molecular structure and spectroscopy, with applications.

CHEM 520A-520B. Inorganic Chemistry (3-3)
Prerequisite: Chemistry 410A. Chemistry 520A is prerequisite to 520B.
Nature of chemical bond and an advanced systematic study of representative and transition elements and their compounds.

CHEM 531. Synthetic Organic Chemistry (3)
Prerequisites: Chemistry 432, 432L. Modern methods, strategies, and mechanisms in advanced organic synthesis. Retrosynthetic analysis of and synthetic routes towards biologically important compounds.

CHEM 538. Polymer Science (3)
(Same course as Physics 538)
Prerequisites: Chemistry 200 or 202, and credit or concurrent registration in Chemistry 410B or Physics 360 or Mechanical Engineering 350. Structure, synthesis, physical properties, and utilities of polymers and biopolymers.

CHEM 550. Instrumental Methods of Chemical Analysis (2)
Prerequisites: Chemistry 232, 232L, and credit or concurrent registration in Chemistry 410A or credit or concurrent registration in Chemistry 457 for undergraduate students only. Chemistry majors in the teaching credential program (BA in Applied Arts and Sciences) can replace Chemistry 457 with credit or concurrent registration in Chemistry 417. Chemical Physics majors can replace Chemistry 457 with credit or concurrent registration in Physics 411. Theory and application of instrumental methods of chemical separation and analysis most frequently used in all disciplines of chemistry.

CHEM 560. General Biochemistry (3)
Prerequisites: Chemistry 232, 232L, and credit or concurrent registration in Chemistry 410A, 432, 432L. The structure, function, metabolism, and thermodynamic relationships of chemical entities in living systems. Not open to students with credit in Chemistry 365.

CHEM 562. Intermediary Metabolism (2)
Prerequisite: Chemistry 365 or 560. Catabolic and biosynthetic pathways of carbohydrate, lipid, amino acid, and nucleotide metabolism; TCA cycle, mitochondrial and chloroplast electron transport chains, ATP generation and their interactions and control. Not open to students with credit in Chemistry 361.

CHEM 563. Nucleic Acid Function and Protein Synthesis (2)
Prerequisite: Chemistry 365 or 560. DNA replication, RNA transcription, RNA processing, and protein translation, including chemical mechanisms of synthesis and cellular mechanisms of regulating gene expression; genomics, recombinant DNA, and DNA topology. Not open to students with credit in Chemistry 361.

CHEM 564. Receptor Biochemistry and Protein Modification (2)
Prerequisite: Chemistry 365 or 560. Biochemical study of receptors, second messengers, and cellular proteins that participate in extracellular and intracellular communication, with focus on protein structures, post-translational modifications, and biochemical mechanisms that regulate receptors and effector enzymes.

CHEM 567. Biochemistry Laboratory (3)
One lecture and six hours of laboratory. Prerequisite: Chemistry 560. 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.

CHEM 571. Topics in Environmental Chemistry (1-3)
Prerequisites: Chemistry 232, 232L, 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. Maximum credit three units.

CHEM 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 596, 496, 596 courses applicable to a bachelor's degree. Maximum credit of six units of 596 applicable to a bachelor's degree. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

GRADUATE COURSES

CHEM 695. Graduate Education in Chemistry (1-3)
Prerequisite: Concurrent registration in chemistry course at 500-level or higher. Skills and knowledge needed for success in chemistry graduate programs to include techniques for successful teaching, key safety protocols, ethical issues in teaching and research, department research programs, effective means of finding and communicating chemical information.

CHEM 696. Selected Topics in Chemistry (1-3)
Prerequisite: Graduate standing. Intensive study in specific areas of chemistry. May be repeated with new content. Maximum credit six units. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

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

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

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

CHEM 714. Topics in Statistical Mechanics (3)
Prerequisites: Chemistry 410A, 410B, Mathematics 252. Selected topics from the field of physical chemistry. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

CHEM 730. Advanced Topics in Organic Chemistry (1-3)
Prerequisites: Chemistry 432, 432L. 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.

CHEM 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.
CHEM 751. Separations Science (1-3)
Prerequisite: Chemistry 550.
Theoretical basis 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.

CHEM 752. Mass Spectrometry (1-3)
Prerequisites: Chemistry 410B and 550.
Theory and practice in analysis of volatile and nonvolatile organic and inorganic compounds, basic design principles, theory of ionization processes; interpretation of mass spectra.

CHEM 753. Analytical Spectroscopy (1-3)
Prerequisite: Chemistry 550.

CHEM 761. Biophysical Chemistry (3)
Prerequisite: Chemistry 560.
Biological macromolecules to include absorption/circular dichroism/emission spectroscopy, calorimetry, centrifugation, electrophoresis, light/small-angle x-ray/neutron scattering, mass spectrometry, and x-ray crystallography.

CHEM 763. Cellular Regulation (1-3)
Prerequisite: Chemistry 563.
Biochemistry of cellular regulatory mechanisms in eucaryotic cells. Regulation of gene transcription, in mRNA translation and post-translational processes, including the mechanism and regulation of intracellular protein turnover.

CHEM 765. Molecular Mechanisms of Human Disease (3)
Prerequisite: Chemistry 365 for biology majors, 560 for biochemistry and chemistry majors, or graduate standing.
Protein dysfunction in cancer, HIV, and prion disorders. Altered catalytic function to include drug design/pharmacokinetics/ADME, global kinetics fitting software, hydrogen-deuterium exchange mass spectrometry, pre-steady-state kinetics, x-ray crystallography, and structural manipulation programs.

CHEM 790. Seminar (1-3)
An intensive study in advanced chemistry. May not be substituted for Chemistry 791. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

CHEM 791. Research Seminar (1)
Prerequisite: Consent of graduate adviser.
Presentation of current research by students working towards M.S. degrees. Must be completed before end of second year of study.

CHEM 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.

CHEM 795. Chemistry Seminar (1)
Prerequisite: Graduate standing.
Advanced study in all fields of chemistry. Maximum credit three units applicable to the master's degree or Ph.D. in chemistry.

CHEM 797. Research (1-3) Cr/NC/RP
Prerequisite: Consent of instructor.
Research in one of the fields of chemistry. Maximum credit six units applicable to a master's degree.

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

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

CHEM 799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP 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

CHEM 897. Doctoral Research (1-15) Cr/NC/RP
Prerequisite: Admission to the doctoral program.
Independent investigation in the general field of the dissertation.

CHEM 899. Doctoral Dissertation (1-15) Cr/NC/RP
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.
The grade point average required for admission to the master's program in Chicana and Chicano studies is 3.0 for the last 60 units (2.85 overall) of the student's undergraduate work plus satisfactory scores on the verbal and quantitative sections of the GRE.

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.

All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the Department of Chicana and Chicano Studies.

Graduate Admissions

The following materials should be submitted as a complete package directly to:

Graduate Admissions

Enrollment Services

San Diego State University

San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended:

NOTE:
• Students who attended SDSU need only submit transcripts for work completed since last attendance.
• Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

(2) GRE scores (http://www.ets.org SDSU institution code 4682);

(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

Department of Chicana and Chicano Studies

The following materials should be mailed or delivered to:

Department of Chicana and Chicano Studies

(Attention: Graduate Adviser)

San Diego State University

5500 Campanile Drive

San Diego, CA 92182-6034

(1) Two or more letters of reference from persons with direct knowledge of the applicant's academic ability;

(2) Personal statement;

(3) Research statement;

(4) Writing sample (such as a research paper);

(5) Curriculum vitae or resume.

Advancement to Candidacy

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

Specific Requirements for the Master of Arts Degree

(Major Code: 22131) (SIMS Code: 114910)

In addition to meeting the requirements for the Master of Arts degree, as described in Part Four of this bulletin, the student must complete at least 30 units of graduate coursework with a core of courses to include: Chicana and Chicano Studies 554, 601, 602, 605, 798, 799A.

The total program shall include a minimum of 15 units in 600- and 700-numbered courses. The remaining 12 units will be selected in consultation with the department graduate adviser.
Courses Acceptable for Master's Degree Program in Chicana and Chicano Studies (CCS)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

CCS 548. Race and Ethnicity in United States History (3)
(Same course as History 548)
Prerequisite: Upper division or graduate standing.
Race and ethnicity in America from colonial period through twentieth century to include historical construction of identity; colonization, slavery, state formation; labor, immigration, politics of whiteness; applicability of black/white binary of a multiethnic society.

CCS 554. United States-Mexico Transborder Populations and Globalization (3)
Prerequisite: Upper division or graduate standing.

CCS 596. Topics in Chicana and Chicano Studies (1-3)
Prerequisite: Consent of instructor.
Advanced topics in Chicana and Chicano 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

GRADUATE COURSES

CCS 601. Foundations in Chicana and Chicano Scholarship Seminar (3)
Prerequisite: Graduate standing.
Philosophical, cultural, social thought, and intellectual traditions shaping Chicana and Chicano scholarship. Key paradigms of gender, ethnicity, and socio-economic change.

CCS 602. Methods of Inquiry in Chicana and Chicano Studies Seminar (3)
Prerequisite: Graduate standing.
Research methods in Chicana and Chicano studies including evaluation of reported findings. Emphasis on multidisciplinary perspectives.

CCS 605. Borderlands and Feminist Theories (3)
Prerequisite: Graduate standing.
Major theories pertaining to U.S.-Mexico borderlands and their gendered and sexual discourses: Chicana feminism, transnationalism, cultural studies, ethnography, narrative, cultural, citizenship, and multiculturalism.

CCS 696. Topics in Chicana and Chicano Studies (3)
Prerequisite: Graduate standing.
Key issues in Chicana and Chicano studies. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

CCS 798. Special Study (1-3) Cr/NC/RP
Prerequisite: Consent of instructor.
Independent study. Maximum credit six units applicable to a master's degree.

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

CCS 799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP 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 and Family Development
Refer to “Education” in this section of the bulletin.
City Planning
In the School of Public Affairs
In the College of Professional Studies and Fine Arts

OFFICE: Professional Studies and Fine Arts 100
TELEPHONE: 619-594-6472 / FAX: 619-594-1165

Faculty
Stuart D. Henry, Ph.D., Professor of Public Affairs, Director of School
Roger W. Caves, Ph.D., Professor of Public Affairs, Emeritus
(Graduate Coordinator)
Lawrence A. Herzog, Ph.D., Professor of Public Affairs, Emeritus
(Graduate Coordinator)
Louis M. Rea, Ph.D., Professor of Public Affairs, Emeritus
Sherry Ryan, Ph.D., Professor of Public Affairs
Bruce S. Appleyard, Ph.D., Assistant Professor of Public Affairs
Megan B. Welsh, Ph.D., Assistant Professor of Public Affairs

General Information
The School of Public Affairs offers graduate study leading to the Master of City Planning degree. Research facilities provided include the Institute of Public and Urban Affairs and the Public Administration Center. The San Diego metropolitan community affords significant internship opportunities for the graduate student in federal, state, and local government agencies.

Master of City Planning Degree

Admission to Graduate Study
All students must satisfy the general requirements for admission to the university with classified graduate standing, as described in Part Two of this bulletin. The applicant must possess a bachelor's or higher degree in sociology, geography, political science, economics, architecture, or landscape architecture, or any fields related to planning. Students with degrees other than those listed may be allowed to enter the program under appropriate conditions. In the event that deficiencies occur in a student's background and training, the graduate committee will examine the student's past record and recommend a program to make up the deficiencies.

Students seeking admission to the graduate program in city planning which leads to the Master of City Planning degree should address their inquiries to the coordinator of the program. As there are specific requirements for the program it is not sufficient merely to file the general university admission forms. Students are admitted to the program in the fall semester each year.

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.

All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the School of Public Affairs.

Graduate Admissions
The following materials should be submitted as a complete package directly to:
Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;
NOTE:
• Students who attended SDSU need only submit transcripts for work completed since last attendance.
• Students with international coursework must submit both the official transcript and proof of degree.
(2) GRE scores (http://www.ets.org SDSU institution code 4682);
(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

School of Public Affairs
The following admissions materials must be submitted electronically via DecisionDesk, http://gra.sdsu.edu/decisiondesk/ before April 1:

1. Letters of recommendation (two letters from professors or employers);
2. Unofficial transcripts;
3. Current curriculum vitae or resume;
4. Personal statement (500 word essay) providing background and general interest, reasons for choosing this graduate degree. Include professional aspirations and special areas of interest in planning.

Advancement to Candidacy
All students must meet the general requirements for advancement to candidacy, as described in Part Four of this bulletin and be recommended by faculty. In order to be recommended for advancement, a student must have achieved a grade point average of 3.0 in 24 units of city planning courses.

Specific Requirements for the Master of City Planning Degree
(Major Code: 02061) (SIMS Code: 666917)

In addition to meeting the requirements for classified graduate standing for the purpose of pursuing the Master of City Planning degree, the student must complete an approved program of study consisting of at least 48 units of approved 500-, 600-, and 700-numbered courses, with no more than nine units of 500-level courses, to include:

1. C P 625 Quantitative Techniques in Urban Planning (3)
2. Twelve units of 600- and 700-numbered courses in planning elective courses, with no more than nine units of 500-level courses, to include:
3. C P 796 Internship in Urban Planning (3-6) Cr/NC
4. P A 604 Methods of Analysis in Public and Urban Affairs (3)
5. Other electives to complete program selected with the approval of adviser.
6. Students in Plan B are required to pass comprehensive written examinations in general city planning and in two areas of study. Students who have approval of the graduate adviser to pursue Plan A must include on their programs City Planning 799A, Thesis.
At least 39 units must be completed in residence at San Diego State University, and at least 24 units of program courses shall be enrolled in and completed after advancement to candidacy.
Not more than a total of nine units in courses 797 and 798 will be accepted for credit toward the degree.
Courses Acceptable for Master's Degree Program in City Planning (C P)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

GRADUATE COURSES

C P 625. Quantitative Techniques in Urban Planning (3)
Prerequisite: Public Administration 604.
Advanced techniques for analyzing problems in city planning; emphasis on computer applications.

C P 630. Seminar in Urban Planning Implementation (3)
Analysis of the content and function of zoning, subdivision regulation, codes, capital budgeting, urban renewal, model cities, and other implementation methods and programs.

C P 635. Seminar in Housing and Housing Policy (3)
Study, definition and analysis of housing needs and problems. Public policies and programs addressed to housing issues. Alternative solutions and the role of the private and public sectors.

C P 640. Seminar in Urban Planning Theory (3)
Prerequisite recommended: City Planning 630.
Alternative theories of planning and organization of the planning function. Emphasis on conceptual foundations, relationship to governmental structure, decision making, and ideological and ethical orientations.

C P 660. City Planning and Geographic Information Systems Applications (3)
ArcGIS mapping software extensively utilized in city planning. Proficiency necessary to use software in professional context for work required by public and/or private sector planning employment.

C P 665. Seminar in Urban and Regional Planning Analysis (3)
Theories and techniques of urban and regional planning analysis.

C P 670. History of Urban Planning (3)
History of urban development and of the field of urban planning.

C P 675. Seminar in Environmental Policy and Planning (3)
Theoretical elements of environmental policy, sustainability; application to urban planning, Green site planning, urban design, and transportation policy.

C P 690. Seminar in Land Use Planning Principles and Techniques (3)
Two lectures and three hours of laboratory.
Prerequisite: City Planning 660.
Land-use and physical planning principles and techniques at the regional, community, specific and subdivision planning levels.

C P 695. Computer Applications for Urban Design (3)
One lecture and six hours of laboratory.
Acquisition of computer graphics skills to successfully communicate urban design ideas and plans. Focus on laboratory work and the production of planning related graphic pieces.

C P 700. Urban Design and Land Use Planning Studio (3)
Two lectures and three hours of laboratory.
Prerequisites: City Planning 690 and 695
Preparation of land-use plans and planning reports at the regional, community and subdivision levels.

C P 710. Seminar in Theories of Urban Design (3)
Perspectives and methodologies of contemporary urban design and its contribution toward improving the quality of the physical, social and economic environment.

C P 730. Seminar in Urban Transportation Planning (3)
Issues, techniques and practices in urban transportation planning with general emphasis on interrelations between transportation and land use planning.

C P 796. Internship in Urban Planning (3-6) Cr/NC
Students will be assigned to various government agencies and will work under joint supervision of agency heads and the course instructor. Participation in staff and internship conferences. Maximum credit six units.

C P 797. Research in Urban Planning (3) Cr/NC/RP
Prerequisite recommended: Consent of director of city planning program.
Research in one of the areas of urban planning. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

C P 798. Special Study (1-3) Cr/NC/RP
Prerequisite recommended: Consent of staff.
To be arranged with director of city planning and instructor. Individual study. Maximum credit six units applicable to a master's degree.

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

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

C P 799C. Comprehensive Examination Extension (0) Cr/NC
Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.

Civil Construction and Environmental Engineering

Refer to “Engineering” in this section of the bulletin.
OFFICE: Communication 237
TELEPHONE: 619-594-8512 / FAX: 619-594-0704
E-MAIL: comm.ma@mail.sdsu.edu
http://communication.sdsu.edu

Faculty
William B. Snively, Ph.D., Professor of Communication, Director of School
Peter A. Andersen, Ph.D., Professor of Communication, Emeritus
Wayne A. Beach, Ph.D., Professor of Communication
George N. Dionisopoulos, Ph.D., Professor of Communication
Patricia J. Geist-Martin, Ph.D., Professor of Communication
Susan A. Hellweg, Ph.D., Professor of Communication, Emeritus
Kurt J. Lindemann, Ph.D., Associate Professor of Communication
(Graduate Adviser)
Charles E. Goehringer, Ph.D., Assistant Professor of Communication
Lourdes S. Martinez, Ph.D., Assistant Professor of Communication
Rachael A. Record, Ph.D., Assistant Professor of Communication
Luke A. Winslow, Ph.D., Assistant Professor of Communication

General Information
The School of Communication offers graduate study leading to the Master of Arts degree in communication. The School of Communication is committed to quality graduate and undergraduate education in the field of human communication. We prepare students for civic life, professional careers, and further graduate study. We are committed to cutting edge research and instructional innovation which advances understandings of culture, health, institutions, interaction, politics, relationships, and rhetoric in everyday life. The school is dedicated to serving San Diego State University, the College of Professional Studies and Fine Arts, and the diverse communities in the urban region in which we live and work. Priority is given to the development of graduate students’ expertise and skills in the following areas:

• Mastery of knowledge and abilities in communication theory and practice;
• Completion of major project that prepares students to become change agents in the career paths they are pursuing;
• Collaboration in research and instructional teams;
• Participation in fieldwork in diverse settings relevant to the social issues being investigated;
• Presentation of scholarly papers at professional conferences;
• Co-authorship of research articles with faculty and other graduate students;
• Preparation for a teaching career.

Graduate Teaching Associate Program
Graduate Teaching Associate (GTA) positions are available to a limited number of qualified students. This valuable opportunity includes:

• Training in teaching the basic oral communication course and helping first-year undergraduates to improve their communication skills;
• A monthly stipend that helps to offset the expenses of graduate school.

Instructions for applying for a Graduate Teaching Associate position are available at http://communication.sdsu.edu/?page_id=9.

The deadline for applying for a GTA position is the same deadline as applying for admission to the graduate program (February 1 for fall semester).

Admission to Graduate Study

The M.A. degree in Communication admits students only in the fall semester. Application packages must be received and completed by previous February 1.

In addition to meeting the general requirements for admission to the university with classified graduate standing as outlined in Part Two of this bulletin, students applying for admission to the Master of Arts degree in communication with a specialization in communication studies are evaluated according to the following criteria:

1. Undergraduate major or minor in communication, speech communication, or a related discipline. Those lacking adequate undergraduate preparation may be admitted conditionally to the program and are required to take one or more proficiency courses identified, as determined by the graduate adviser. Proficiency courses do not count toward the 30 units of a student's graduate program.

2. Minimum grade point average of 3.00 (when A equals 4.0) in the last 60 semester (90 quarter) units attempted (this calculation may not include lower division courses taken after award of a baccalaureate degree).

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.

All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the School of Communication.

Graduate Admissions

The following materials should be submitted as a complete package directly to:
Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

1. Official transcripts (in sealed envelopes) from all postsecondary institutions attended;

2. GRE scores (http://www.ets.org SDSU institution code 4682). All applicants must post a Graduate Record Examination (GRE) verbal score of 150 or higher; a GRE quantitative score of 142 or higher; a combined GRE verbal and quantitative score of 300 or higher; and a GRE writing assessment (GRE-W) of level 4 or higher;

3. English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

For international applicants for whom English is not their first language, English language paper scores of 550 (or 213 online).

School of Communication

The following admissions materials must be submitted electronically via DecisionDesk, http://gra.sdsu.edu/decisiondesk/:

Cover Letter

• Indicate that you applied online, paid your fee, and submitted official transcripts and scores to Graduate Admissions;
• Indicate whether you have established California residency;
• Indicate if you are applying for a Graduate Teaching Associate (GTA) position and describe the details of any teaching experience. If you did not major in communication as an undergraduate, indicate any communication coursework that might prepare you for teaching.
Application Support Materials

(1) Letters of Recommendation
Three letters of recommendation from academic or professional references that speak to your ability to succeed in graduate studies. We prefer that at least two of the letters be written by professors who can speak to your academic background and capabilities.

(2) Personal Statement
Personal statement of purpose that (a) describes your interest in communication, (b) describes your undergraduate and/or professional preparation for graduate studies in the communication program, (c) articulates your personal and/or career objectives that graduate studies in communication will help you pursue, and (d) optional: describes your interest in a Graduate Teaching Associate position, addressing how this desire relates to your interest in communication, your past academic and professional experience, and your career objectives.

(3) Photocopies of Transcripts and Scores
It is essential to send photocopies of your transcripts and GRE scores (and English language scores, if applicable) to the School of Communication. Eventually, we will receive the official transcripts and scores from Graduate Admissions; however, we may be in a position to review your materials and make admission and GTA decisions before the materials arrive from the Graduate Admissions office.

(4) Curriculum vitae or resume

(5) Writing sample that you believe well represents your writing capabilities (e.g., a paper written for an undergraduate course).

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy as described in Part Four of this bulletin. Students must satisfactorily complete at least 12 units of courses listed on the official program of study with a minimum grade point average of 3.0 and be recommended by the graduate adviser.

Specific Requirements for the Master of Arts Degree

(Major Code: 06011) (SIMS Code: 661129)

In addition to meeting the requirements for the Master of Arts degree as described in Part Four of this bulletin, the student must complete a minimum of 30 units in courses acceptable in master's degree programs. At least 18 units of the total program must be in courses numbered 600-799. Approval of the graduate adviser is required for all courses numbered 500-599. Students may take up to three units of graduate coursework in departments other than the School of Communication or three units of special study. Students may petition a second course outside the School of Communication, Students may not repeat any course in their program of study without consent of the graduate adviser and instructor.

The M.A. in communication provides advanced study of language, interaction, and communication in relational, organizational, cultural, medical, and societal contexts. Individuals in this specialization explore communication as an interactive process across diverse social relationships, activities and contexts. Please see the School of Communication website for the most current information: http://communication.sdsu.edu.

Students may elect Plan A (Thesis) by completing Communication 799A (3 units) or Plan B (Comprehensive Examination) by completing three additional units of 600-700 level coursework in the School of Communication and pass the Comprehensive Examination in Communication.

Graduate Courses. The remaining 27 units of the program must include Communication 601 with a grade of B or better; six units selected from Communication 610, 620, 640, 660; 12 units selected from Communication 610, 620, 640, 660, 665, 696, 703, 706, 707, 715, 721, 735, 740, 750, 751, 752, 755, 771, 783, 786, 792, 798; and six units selected with the approval of the graduate adviser. No more than three units may be taken as special study (Communication 798).

Courses Acceptable for Master's Degree Program in Communication (COMM)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

NOTE: Communication courses numbered 500 to 599 are not acceptable for the Master of Arts degree in Communication.

COMM 508. Media Literacy (3)
Prerequisites: Communication 300 and 350. Admission to a major or minor in the School of Communication.
Role played by video texts in shaping culture including information distribution, entertainment, and socio-cultural influence exercised by television. Emphasis on audience/medium relationship and to developing critical skills.

COMM 555. Conflict Management Communication (3)
Prerequisites: Communication 300 and 350. Admission to a major or minor in the School of Communication.
Approaches to conflict communication in international, societal, group, institutional, and interpersonal contexts.

COMM 596. Selected Topics (1-4)
Prerequisite: Senior standing or above.
Specialized study in selected topics. 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

GRADUATE COURSES

COMM 601. Seminar: Theory and Research Methods in Communication (3)
Prerequisite: Admission to communication studies specialization graduate program in the School of Communication.
Communication phenomena, theoretical background, and research techniques to navigate variation among approaches; intellectual history of communication theory.

COMM 610. Seminar: Advanced Communication Theory (3)
Prerequisite: Credit or concurrent registration in Communication 601. Advanced methods of theory construction, explication, and evaluation in communication, including alternatives to traditional communication science.

COMM 620. Seminar: Quantitative Methods in Communication Research (3)
Prerequisite: Credit or concurrent registration in Communication 601. Advanced applications of survey methodology; evaluation of experimental and quasi-experimental procedures; methods of statistical inference and research design; application of computer statistical package.

COMM 640. Seminar: Critical and Rhetorical Methods in Communication (3)
Prerequisite: Credit or concurrent registration in Communication 601. Methodologies for textual, rhetorical, semiotic, narrative, and reception research. Use of case studies, focus groups, and interpretive methods.

COMM 660. Seminar: Ethnographic Methods in Communication Research (3)
Prerequisite: Credit or concurrent registration in Communication 601. Historical and contemporary assumptions of ethnographic inquiry, including research design, data collection, and analysis of field materials.
COMM 665. Seminar: Conversation Analysis in Communication Research (3)
Prerequisite: Credit or concurrent registration in Communication 601. Assumptions and practices of conversation analysis. Repeated examinations of diverse recordings and transcriptions as resources for analyzing distinctive, methodological, and ordered nature of communication contexts.

COMM 696. Special Topics (3)
Prerequisite: Credit or concurrent registration in Communication 601. Intensive study in specific areas of communication. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree only with approval of the graduate adviser.

COMM 705. Seminar: Performance Studies (3)
Prerequisite: Credit or concurrent registration in Communication 601. Critical examination of embodiment of written and spoken human communication in variety of social and cultural contexts and practices to include ritual, play, storytelling, folklore, and popular media.

COMM 706. Seminar: Organizational Communication (3)
Prerequisite: Credit or concurrent registration in Communication 601. Functions, forms, and consequences of communicating in organizations in a changing work world. Topics such as culture groups, networks, leadership, conflict, and decision making.

COMM 707. Seminar: Instructional Communication (3)
Prerequisite: Credit or concurrent registration in Communication 601. Communication relationships in instructional setting, teacher verbal and nonverbal immediacy, student communication apprehension, as a function of instructional modalities, and cultural diversity issues.

COMM 715. Seminar: Nonverbal Communication (3)
Prerequisite: Credit or concurrent registration in Communication 601. Nonverbal human behavior, including body movements, gesture, gaze, touch, and integration of vocal and nonvocal activities in human interaction.

COMM 721. Seminar: Health Communication (3)
Prerequisite: Credit or concurrent registration in Communication 601. Personal, interactional, cultural, and political dimensions of communication about health and illness. Assumptions, practices, and structures of discourse across boundaries of family, social, and institutional contexts. May be repeated with new content. Maximum credit six units.

COMM 735. Seminar: Relational Communication (3)
Prerequisite: Credit or concurrent registration in Communication 601. Contemporary theory and research addressing interpersonal verbal and nonverbal communication in intimate and non-intimate relationships.

COMM 740. Seminar: Rhetorical Theory (3)
Prerequisite: Credit or concurrent registration in Communication 601. Different perspectives on rhetoric and human communication explored to better understand historical and contemporary theories of rhetoric.

COMM 750. Seminar: Selected Topics: Communication Contexts (3)
Prerequisite: Credit or concurrent registration in Communication 601. Assumptions and practices of conversation analysis. Repeated examinations of diverse recordings and transcriptions as resources for analyzing distinctive, methodological, and ordered nature of communication contexts.

COMM 752. Seminar: Dark Side of Communication (3)
Prerequisite: Credit or concurrent registration in Communication 601. Communication considered destructive or unethical yet functional, productive or productive and ethical yet dysfunctional, destructive or evil, or ideologically ignored by current inquiry; including jealousy, infidelity, coercion, deception, aggression, and manipulation.

COMM 755. Seminar: Public Address (3)
Prerequisite: Credit or concurrent registration in Communication 601. Case studies of rhetorical events which illustrate rhetorical theory. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

COMM 758. Seminar: Decision Making (3)
Prerequisite: Credit or concurrent registration in Communication 601. Communication in making decisions in groups and organizations. Decision-making as an interpersonal process. May be repeated with new content. Maximum credit six units applicable to a master's degree.

COMM 786. Seminar: Communication and Leadership (3)
Prerequisite: Credit or concurrent registration in Communication 601. Analysis of cultural influences on human communication acts. Emphasis on cultural values, perception, social organizations, language, and nonverbal codes.

COMM 783. Seminar: Medical Interaction (3)
Prerequisite: Credit or concurrent registration in Communication 601. Communication in medical interviewing using conversational analysis of doctor-patient interactions.

COMM 784. Seminar: Communication and Public Affairs (3)
Prerequisite: Credit or concurrent registration in Communication 601. Communication in public affairs. May be repeated with new content. Maximum credit six units applicable to a master's degree.

COMM 785. Seminar: Communication and Law (3)
Prerequisite: Credit or concurrent registration in Communication 601. Communication in legal contexts. May be repeated with new content. Maximum credit six units applicable to a master's degree.

COMM 798. Special Study (1-3) Cr/NC/RP
Contract required. Arranged with graduate coordinator in area of study. Individual study. Maximum credit six units applicable to a master's degree.

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

COMM 799B. Thesis or Project Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis or Project 799A with an assigned grade symbol of RP. Registration in any semester or term following assignment of RP 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.
Associated Faculty for Computational Science

José E. Castillo, Ph.D., Professor of Mathematics, Program Director
Peter V. Blomgren, Ph.D., Professor of Mathematics
Ricardo Carretero, Ph.D., Professor of Mathematics
Andrew L. Cooksy, Ph.D., Professor of Chemistry and Biochemistry
Robert A. Edwards, Ph.D., Professor of Computer Science
Juanjuan Fan, Ph.D., Professor of Statistics
Gustaf B. Jacobs, Ph.D., Professor of Aerospace Engineering
Calvin W. Johnson, Ph.D., Professor of Physics
Sunil Kumar, Ph.D., Professor of Electrical and Computer Engineering
Richard A. Levine, Ph.D., Professor of Statistics
Ralph-Axel Müller, Ph.D., Professor of Psychology
Antonio Palacios, Ph.D., Professor of Mathematics
Paolini, Paul J., Jr., Ph.D., Professor of Biology
Forest L. Rohwer, Ph.D., Professor of Biology
Eric L. Sandquist, Ph.D., Professor of Astronomy
Anca Mara Segall, Ph.D., Professor of Biology
Satish Kumar Sharma, Ph.D., Professor of Electrical and Computer Engineering
Samuel S.P. Shen, Ph.D., Albert W. Johnson Distinguished, Professor of Mathematics
Satchi Venkataraman, Ph.D., Professor of Aerospace Engineering
Fridolin Weber, Ph.D., Albert W. Johnson Distinguished Professor of Physics
Bo-Wen Shen, Ph.D., Assistant Professor of Mathematics
Christopher W. Curtis, Ph.D., Assistant Professor of Mathematics
Ke Huang, Ph.D., Assistant Professor of Electrical and Computer Engineering
Parag Katira, Ph.D., Assistant Professor of Mechanical Engineering
Lyuba Pavlova Kuznetsova, Ph.D., Assistant Professor of Physics
Xiaobai Liu, Ph.D., Assistant Professor of Computer Science
Antoni Luque, Ph.D., Assistant Professor of Mathematics
Huu Ngoc Duy Nguyen, Ph.D., Assistant Professor of Electrical and Computer Engineering
Wei Wang, Ph.D., Assistant Professor of Computer Science

Admission to Graduate Study

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.

All applicants must submit admissions materials separately to SDSU Graduate Admissions and to Computational Science.

Graduate Admissions

The following materials should be submitted as a complete package directly to:

Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all post-secondary institutions attended;

NOTE:
• Students who attended SDSU need only submit transcripts for work completed since last attendance.
• Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

(2) GRE scores (http://www.ets.org SDSU institution code 4682);

(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

Master of Science Degree in Computational Science

The following materials should be submitted electronically to the Computational Science Research Center at San Diego State University. Refer to the Graduate Admissions website (http://arweb.sdsu.edu/es/admissions/grad/programs/index.html) for application instructions. Consult the department website (http://www.csrc.sdsu.edu/masters_checklist.html) for details concerning required materials.

(1) Three letters of recommendation from persons in a position to judge academic ability;

(2) Personal statement of motivating interest for the program and briefly describe research interests and educational goals.

Ph.D. Degree in Computational Science

The following materials should be submitted electronically to the Computational Science Research Center at San Diego State University. Refer to the Graduate Admissions website (http://arweb.sdsu.edu/es/admissions/grad/programs/index.html) for application instructions. Consult the department website (http://www.csrc.sdsu.edu/masters_checklist.html) for details concerning required materials.

(1) Three letters of recommendation from former or current professors, supervisors, or other appropriate persons;

(2) Applicant’s statement of purpose, explaining their interest in the program;

(3) Claremont Graduate University application form;

(4) Joint doctoral program in computational science application form;

(5) Copies of unofficial transcripts from all post-secondary institutions attended.
Section I.
Master's Degree Programs

General Information
The computational science program offers a Master of Science degree. It is offered in collaboration with the Departments of Biology, Chemistry and Biochemistry, Computer Science, Geological Sciences, Mathematics and Statistics, and Physics, in the College of Sciences.
Graduates of this program will have a solid foundation in a field of science and the additional training and experience required of computational science professionals. Fundamental science, in one of the specializations, dominates the program. This is supplemented with additional courses in computational science. Real scientific problem-solving is emphasized, through a thesis that could be done in conjunction with a carefully managed extramural research program. A significant proportion of the students in this program will be employed in positions related to their area of studies, thereby providing opportunities for extramural support. Graduates will be prepared for positions in scientific research, scientific programming, and software engineering.

Associateships
Graduate teaching associateships and graduate nonteaching associateships may be available from the individual departments. See the appropriate department of this bulletin for more information.

Admission to the Degree Curriculum
All students must satisfy the general requirements for admission to the university with classified graduate standing, as described in Part Two of this bulletin. If the undergraduate preparation of the students in the desired specialization is deficient, they will be required to take courses for the removal of the deficiency. These courses, taken by students as a classified graduate student, are in addition to the minimum 30 units required for the master's degree. A complete student program must be approved by the computational science program director. The requirements for entering this program consist of one year of computer programming in a programming language such as C or Fortran, competence in linear algebra and calculus, and a background equivalent to a bachelor's degree in the area of interest.

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

Specific Requirements for the Master of Science Degree
(Major Code: 07992) (SIMS Code: 773001)
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 Four of this bulletin. The student must also complete a graduate program of 30 units, of which at least 15 units must be in 600- and 700-level courses excluding 799A to include:

Required core courses (21 units):
Core Courses
COMP 521 Introduction to Computational Science (3)
COMP 526 Computational Methods for Scientists (3)
COMP 536 Computational Modeling for Scientists (3)
COMP 589 Computational Imaging (3)
COMP 605/CS 605 Scientific Computing (3)
COMP 626 Applied Mathematics for Computational Scientists (3)
COMP 670 Seminar: Problems in Computational Science (3)

Elective courses (3 units selected from):
STAT 670A Advanced Mathematical Statistics (3)
CS 503 Scientific Database Techniques (3)

With consent of the program director, 600-level courses from other departments can be taken based on the student's background and research interest.

Project (3 units):
COMP 799A Thesis (3) Cr/NC/RP

Research (3 units):
COMP 797 Research (3) Cr/NC/RP

Substitution of core courses is permitted based on disciplines related to student's specialization with consent of director.
A complete student program must be approved by the computational science program director. The requirements for entering this program consists of one year of computer programming in a programming language such as C or Fortran, competence in linear algebra and calculus, with background equivalent to a bachelor's degree in the area of interest.

Concentration in Professional Applications (Offered through the College of Extended Studies)
(Major Code: 07992) (SIMS Code: 773010)

No students admitted to program at this time.

The concentration focuses on professional applications of computational science. To enter the program, students must possess a bachelor's degree with a strong mathematical background. The student must complete a graduate program of 40 units to include the following:

Required core courses (34 units):
Core Courses
COMP 526 Computational Methods for Scientists (3)
COMP 536 Computational Modeling for Scientists (3)
COMP 589 Computational Imaging (3)
COMP 602 Organizational Development (2)
COMP 626 Applied Mathematics for Computational Scientists (3)
COMP 670 Seminar: Problems in Computational Science (3)
COMP 671 Problem Solving Techniques (3)
Electives (14 units with consent of program director)
Project (6 units):
COMP 797 Research (3) Cr/NC/RP
COMP 798 Special Study (3) and comprehensive examination

Substitution of core courses is permitted based on disciplines related to student's specialization with consent of director.

Section II.
Doctoral Program
http://www.csrc.sdsu.edu/doctoral.html

General Information
San Diego State University and Claremont Graduate University, offer jointly a doctoral program in computational science and a concentration in statistics. The cooperating faculties are from the Colleges of Engineering and Sciences at San Diego State University and participating units from Claremont Graduate University.

Admission to the Degree Curriculum
In order to be considered for admission into the program, applicants must fulfill the general requirements for admission with graduate standing to both institutions. Applicants must meet special requirements of this program which include (a) a baccalaureate degree from an accredited institution in a scientific discipline or engineering.
Applications from outstanding candidates with degrees in other areas may be accepted conditionally; normally, these students will be expected to take during their first year of enrollment the necessary coursework to eliminate deficiencies; (b) an undergraduate minimum grade point average of 3.0 and minimum 3.50 in any previous graduate coursework; (c) suitable scores on both the quantitative and verbal sections of the Graduate Record Examination.

**Faculty Advisers and Doctoral Committee:** Upon admission to the program, the student will be assigned a faculty mentor from either institution. After completing the first year of study and receiving a progress evaluation, the student will select a doctoral adviser. The doctoral adviser will aid in the development of a suitable course of study for the student, administer the student’s qualifying examination, monitor progress of student research and administer the defense of the doctoral dissertation.

### Specific Requirements for the Doctor of Philosophy Degree

(Major Code: 07992) (SIMS Code: 773002)

The program consists of a minimum of 72 units of coursework, independent study, and research (including transfer credit) distributed as follows. Any deviation from the program of studies must be done with the approval of the program director.

- **Minimum 24 units of graduate level coursework at SDSU (computational science program):**
- **Minimum 24 units of graduate level coursework at CGU (graduate mathematics program):**
- **Minimum 24 units of research, practicum, dissertation, and graduate seminar at either institution.**

An additional 24 to 48 units of research, practicum, dissertation, and graduate seminar (COMP 800) may be taken at either institution.

A student entering the program with a Bachelor of Science degree will satisfy the initial 24 unit requirement by completing a Master of Science degree in computational science at SDSU, then take 24 units of coursework at CGU. Students with an advanced degree other than computational science will complete appropriate courses and a research project to obtain the equivalent of an M.S. degree in computational science.

**Claremont Graduate University Courses:** Students are required to take 24 units at Claremont Graduate University. There is a core course requirement that must be satisfied with students selecting at least one course each from three of the following four categories:

**Category 1:** Mathematics 389, Discrete Modeling.

**Category 2:** Advanced Statistics with Computation: Examples of courses that would fulfill this requirement include Mathematics 351, Time Series; Mathematics 352, Nonparametric Statistics with Resampling Methods; Mathematics 353, Advanced Topics in Statistics Inference; Mathematics 355, Linear Statistical Models.

**Category 3:** Mathematics 368, Advanced Numerical Analysis or Mathematics 362, Numerical PDEs.

**Category 4:** Exotic Algorithms: Mathematics 469, Artificial Neural Networks; Mathematics 359 or 369, Monte Carlo Methods.

The additional units taken to make up the 24 unit requirement at Claremont Graduate University are electives to be selected with approval of the faculty adviser at SDSU and CGU. For example, students interested in computational problems in finance may elect to take Mathematics 358, Mathematical Finance, or other related electives. Students whose computational interests lie in signal processing and encryption may take Mathematics 335, Integral Transforms; Mathematics 374, Encoding and Encryption; and/or Mathematics 350, Kalman Filtering. The student’s program of study beyond the core requirement will be tailored to the student’s individual research interests.

**Research Units at SDSU:** Computational Science 800, 810, 894, 896, 897, 898, 899.

**Qualifying Examination.** The qualifying examination shall consist of a term research project supervised by a faculty mentor. The topic of the project will be approved by the program directors in consultation with the faculty mentor. The student will be required to prepare a written account of the research work performed and of its results, and offer an oral presentation before the members of the advisory committee. This level of evaluation will be equivalent and coincide with the computational science Master of Science degree final examination.

**Practicum and Doctoral Research.** Dissertation research will be carried out here at one of the two institutions, at an industry, or at a national laboratory. In the latter two cases, its denomination is practicum.

**Dissertation Proposal.** The dissertation proposal shall be submitted by the student to the advisory committee no later than upon completion of the student’s third academic year in the program. The dissertation proposal will take the form of a scientific grant proposal to a major funding agency. The proposal will describe the research project that the student intends to carry out, on which the doctoral dissertation will be based. The student will also be required to deliver an oral presentation before the computational science faculty. Upon successful completion of the dissertation, the student will be recommended for advancement to candidacy for the doctoral degree.

**Doctoral Dissertation.** Upon completion of the dissertation research, the candidate will submit the dissertation to the advisory committee. The candidate will also present a public oral defense of the dissertation. Before the presentation, an account of the work performed will be submitted for publication to a peer-reviewed, international research journal. Upon successful completion of the presentation, the candidate’s advisory committee will make a recommendation to the graduate dean.

**Faculty**

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

**San Diego State University**

Program Director: José E. Castillo

**Claremont Graduate University**

Program Director: John Angus
Committee Members: Angus, Cumberbatch, Dewey, Landsberg, Nadim, dePillis, Liebeskind-Hadas, Raval, Spanier, Wild, Williamson

**Concentration in Statistics**

(Major Code: 07992) (SIMS Code: 773003)

Completion of the following coursework before entering the concentration: two semesters of mathematical statistics (at the level of Statistics 670A-670B), one semester of regression analysis (at the level of Statistics 510), and one semester of linear algebra (at the level of Mathematics 524), and a working knowledge of a programming language.

The program consists of a minimum of 72 units of coursework, independent study, and research distributed as follows. Any deviation from the program of studies must be done with the approval of the program director.

**SDSU courses:**

2. Minimum 15 units of graduate level computational statistics coursework tailored to the student’s research interests selected in consultation with and approved by program director.

**Claremont Graduate University courses:**

1. Sixteen units from MATH 350, 351, 352, 353, 355, or computational statistics courses selected in consultation with and approved by program director.
2. Eight units of electives selected in consultation with and approved by program director.

**Minimum 24 units of research, practicum, dissertation, and graduate seminar at either institution:**

Research units at SDSU: COMP 800, 894, 897, 898, 899.
Research units at CGU: MATH 495, 498, 499.
Computational Science

A student with a Bachelor of Science degree will satisfy the initial 24 units of SDSU course requirements by completing a Master of Science degree in statistics at SDSU, with program of study to include Statistics 700, 701, and 702, then taking 24 units of coursework at CGU.

Faculty
The following faculty members of the cooperating institutions are available for direction of research in the statistics concentration.

San Diego State University
Program Directors: José E. Castillo and Richard A. Levine
Doctoral advisers: Bailey, Chen, Duncan, Fan, Levine, Lin, Lui
Claremont Graduate University
Program Director: John Angus
Doctoral advisers: Angus, Hardin, Martinosi, Myhre, Raval, Schellhorn

Associateships
Graduate teaching associateships in statistics and biostatistics are available and are awarded on a competitive basis by the Department of Mathematics and Statistics. Application forms and additional information may be secured from the office of the Department of Mathematics and Statistics.

Advanced Certificate in Professional Computational Science
(Offered through the College of Extended Studies)
(SIMS Code: 773005)
The Advanced Certificate in Professional Computational Science is designed for private and public industry professionals as well as graduate students who wish to learn professional and technical computational skills in their fields to include tools available for scientific application development (particularly those targeted as parallel and distributed systems), scientific visualization and database query applications, simulation and modeling packages, computational templates such as Matlab and Maple, and the choice of appropriate hardware resources for different classes of computational problems. Credit earned through the Advanced Certificate in Professional Computational Science can be applied toward the units required to obtain the Master of Science degree in Computational Science with a Concentration in Professional Applications.

The advanced certificate requires 12 units to include Computational Science 526, 589, and six additional units with consent of the program director. Each course must be completed with a grade of B (3.0) or better.

Courses Acceptable for Master's and Doctoral Degree Programs in Computational Science (COMP)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

COMP 521. Introduction to Computational Science (3)
Prerequisite: Mathematics 151.
Matrices and linear equations, solving ordinary differential equations (ODEs), vector spaces, closed form solutions, qualitative theory, Eigenvalues, linear maps, linear differential equations, other techniques, nonlinear systems, higher dimensional systems.

COMP 526. Computational Methods for Scientists (3)
Prerequisites: Mathematics 252 and 254.
Translating mathematical problem descriptions to computer programs. Introduction to Unix system.

COMP 536. Computational Modeling for Scientists (3)
Prerequisite: Mathematics 151.
Models, computational tools, errors, system dynamics, growth, stability, multicompartment models, Euler's, Runge-Kutta methods, system dynamics, infectious disease, enzyme kinetics, environmental cycles, cardiovascular system, metabolism, global warming, empirical models, HIV, population distributions, diffusion, HPC.

COMP 596. Advanced Topics in Computational Science (1-4)
Prerequisite: Consent of instructor.
Selected topics in computational science. May be repeated with the approval of the instructor. See Class Schedule for specific content. Limit of nine units of any combination of 596, 496, 596 courses applicable to a bachelor's degree. Maximum credit of six units of 596 applicable to a bachelor's degree. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

GRADUATE COURSES

COMP 602. Organizational Development (2)
Prerequisite: Graduate standing.
Contemporary organizational and leadership theory and practice through personal reflection, team assessment and feedback, and case analysis. Nature of change, forces for change, and impact of change in organizations and individuals. Organizational processes, structures and cultures, and effect on organization's performance.

COMP 605. Scientific Computing (3)
(Same course as Computer Science 605)
Prerequisites: Graduate standing and knowledge of the C programming language or FORTRAN or Computational Science 526. Parallel programming using message passing to include high performance computing and MPI language extensions.

COMP 626. Applied Mathematics for Computational Scientists (3)
Prerequisites: Mathematics 252 and 254.
Linear algebra, differential equations and stability theory, and analytical methods for partial differential equations within the context of computational science.

COMP 670. Seminar: Problems in Computational Science (3)
Prerequisite: Graduate standing.
Applications of computational science in solving problems using a variety of methods. Problems selected from biology, chemistry, physics, and other fields.

COMP 671. Problem Solving Techniques (3)
Prerequisite: Graduate standing.
Data abstraction and problem solving skills.

COMP 696. Selected Topics in Computational Science (3)
Prerequisite: Graduate standing.
Intensive study in specific areas of computational science. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

COMP 705. Advanced Parallel Computing (3)
(Same course as Computer Science 705)
Prerequisite: Computational Science 605 [or Computer Science 605].
Libraries, numerical methodology, optimization tools, visualization of results, MPI and GPU computing models. Applications conducted on CSRC student cluster and NSF XSEDE computing resources.

COMP 797. Research (1-3) Cr/NC/RP
Prerequisite: Six units of graduate level computational science courses.
Research in computational science. Maximum credit six units applicable to a master's degree.

COMP 798. Special Study (1-3) Cr/NC/RP
Prerequisite: Consent of staff; to be arranged with program director and instructor.
Individual study. Maximum credit six units applicable to a master's degree.
COMP 799A. Thesis or Project (3) Cr/NC/RP
Prerequisites: An officially appointed thesis committee and advancement to candidacy.
Preparation of a project or thesis for the master's degree.

COMP 799B. Thesis or Project Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis or Project 799A with an assigned grade symbol of CR.
Registration required in any semester or term following assignment of CR 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.

COMP 799C. Comprehensive Examination Extension (0) Cr/NC
Prerequisite: Completion or concurrent enrollment in degree program courses.
Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.

DOCTORAL COURSES

COMP 800. Seminar (3) Cr/NC/RP
Prerequisite: Admission to the doctoral program.
Topics in different areas of computational science.

COMP 810. Colloquium in Computational Science (1) Cr/NC/RP
Prerequisite: Admission to the doctoral program.
Discussions on advances in computational science research. Course to be taken every semester.

COMP 894. Supervised Research, Qualifying Examination, and Dissertation Proposal (3-9) Cr/NC/RP
Prerequisites: Admission to the doctoral program and consent of instructor.
Research and preparation for qualifying examination.

COMP 896. Practicum (1-9) Cr/NC/RP
Prerequisite: Admission to the doctoral program.
Independent investigation in general area of field of dissertation. Conducted in industry or national laboratory under faculty supervision. Maximum credit 36 units.

COMP 897. Doctoral Research (1-9) Cr/NC/RP
Prerequisite: Admission to the doctoral program.
Independent investigation in general field of dissertation. Maximum credit 36 units.

COMP 898. Doctoral Special Study (1-3) Cr/NC/RP
Prerequisite: Advancement to candidacy.
Individual study leading to study and research required for doctoral dissertation.

COMP 899. Doctoral Dissertation (1-15) Cr/NC/RP
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 student plans to graduate.
Computer Science
In the College of Sciences

OFFICE: Geology/Mathematics/Computer Science 413
TELEPHONE: 619-594-6191
http://www.cs.sdsu.edu

Faculty
Leland L. Beck, Ph.D., Professor of Computer Science, Emeritus, Chair of Department
John L. Carroll, Ph.D., Professor of Computer Science
Robert A. Edwards, Ph.D., Professor of Computer Science
Marie A. Roch, Ph.D., Professor of Computer Science
Mahmoud Tarokh, Ph.D., Professor of Computer Science
Faramarz Valafar, Ph.D., Professor of Computer Science
Tao Xie, Ph.D., Professor of Computer Science
Carl F. Eckberg, Ph.D., Associate Professor of Computer Science
(Graduate Adviser)
Roger E. Whitney, Ph.D., Associate Professor of Computer Science
(Graduate Adviser)
Xiaobai Liu, Ph.D., Assistant Professor of Computer Science
Wei Wang, Ph.D., Assistant Professor of Computer Science
William A. Root, M.S., Staff Scientist

Associateships
Graduate teaching associateships 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 Computer Science.

General Information
The Department of Computer Science 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: artificial intelligence, databases, high performance computing, web application, distributed systems, multiprocessor, 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.

A master's degree in computer science provides education and creative experience to prepare graduates for advanced professional employment in industry or government, or for college-level teaching.

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, for fully classified graduate standing students must complete Computer Science 560 and 570 or equivalent. Classified graduate standing is prerequisite to all 600- and 700-level courses; conditional graduate standing is possible. Students convicted of plagiarism or cheating on examinations may lose classified graduate standing.

Students applying for admission should electronically submit the university application available at http://www.cs.sdsu.edu/apply along with the $55 application fee. All applicants must submit admissions materials to SDSU Graduate Admissions.

Refer to section on Admission to Postbaccalaureate and Graduate Study in this bulletin for further details.

Graduate Admissions
The following materials should be submitted as a complete package directly to:
Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;

NOTE:
• Students who attended SDSU need only submit transcripts for work completed since last attendance.
• Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.
• GRE scores (http://www.ets.org SDSU institution code 4682);
• English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

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

Specific Requirements for the Master of Science Degree in Computer Science

(Major Code: 07011) (SIMS Code: 773801)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Four 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 with the approval of the adviser. One to three electives must be chosen from the ALC area of study approved by the adviser. (Plan A is contingent upon having a minimum 3.5 GPA in courses applicable to the master's degree, and upon having a full time computer science faculty member to supervise the thesis. The number of students that can be accommodated in Plan A is limited by faculty resources.)

2. Students must select Plan A (Thesis) or Plan B (Comprehensive Examinations) as described below. (Selecting Plan A is contingent upon having a minimum 3.5 GPA in courses applicable to the master's degree, and upon having a full time computer science faculty member to supervise the thesis. The number of students that can be accommodated in Plan A is limited by faculty resources.)

Plan A (Thesis)

(Major Code: 07011) (SIMS Code: 773803)

A total of 30 units of 500-, 600-, 700-level courses as follows:

a. At least 15 units from Computer Science 600- and 700-level courses excluding Computer Science 797, 798, 799A. A 600-level electrical engineering course or one of the mathematics courses listed below in the ALC area of study may replace one 600-level computer science course.

b. Students select two areas of study from the areas listed below, and take at least two courses from each area.

c. Three units of Thesis (799A), and an oral presentation and defense.

With approval of the graduate adviser, students may take Computer Science 798 as preparation for Computer Science 799A (Thesis).
Plan B (Comprehensive Examinations)

A total of 30 units of 500-, 600-, 700-level courses as follows:

a. At least 18 units from Computer Science 600- and 700-level courses excluding Computer Science 797, 798, 799A. A 600-level electrical engineering course or one of the mathematics courses listed below in the ALC area of study may replace one 600-level computer science course.

b. At least one course from four of the following five areas of study: PFL, OSA, ALC, ISR, and DSW.

c. Comprehensive examinations in three subjects selected from automata and formal languages; database management systems; data structures and algorithms; intelligent systems and robotics; numerical analysis; operating systems and architecture; programming languages. Under certain conditions, students may substitute additional coursework for one or two of the three required examinations, or replace two examinations with an approved project. Further information is available on the department website.

Full-time international students on Plan B who have completed all their required coursework must show progress in at least two areas of study each semester (until they have completed all but one). This can be done by either taking qualifying examinations or additional coursework, which must be preapproved by the graduate adviser.

Areas of Study

(PFL) Programming and Formal Languages: Computer Science 520, 532, 535, 537, 540, 583, 605 [or Computational Science 605], 620, 635, 636, 705.

(OSA) Operating Systems and Architecture: Computer Science 572, 574.

(ALC) Algorithms and Complexity: Computer Science 558, 562, 600, 609, 660, 662, 664; Mathematics 525, 625, 626, 667, 668, 693A, 693B.

(ISR) Intelligent Systems and Robotics: Computer Science 550, 553, 556, 559, 581, 582, 653, 656, 657, 682; Statistics 702.


Advanced Web and Mobile Applications Development Certificate

(Offered through the College of Extended Studies)

(SIMS Code: 773806)

The advanced certificate in Web and Mobile Applications Development provides students with the specialized knowledge that is important in the development of Web and mobile computer applications. Students will study and gain experience with the languages and frameworks that are most commonly used in developing these applications, with the design of user interfaces and software systems, and with associated topics such as networking, hosting infrastructure, and security. They will also learn the fundamental principles on which these topics are based, so that they will be prepared for the new technologies that are constantly being developed.

The admission requirement is a bachelor's degree in computer science or a closely related field. Individuals with an equivalent knowledge of the background materials through work or self-study may be accepted into this program at the discretion of the program director.

The certificate requires completion of at least four courses (12 units) with the approval of the program adviser selected from Computer Science 545, 546, 547, 645, 646, 648. At least two of the four courses must be at the 600-level.

For more information, contact the Department of Computer Science at http://www.cs.sdsu.edu.

Courses Acceptable for Master's Degree Program in Computer Science (CS)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

CS 503. Scientific Database Techniques (3)

Prerequisites: Computer Science 310 and Mathematics 245.

Fundamental data models for handling scientific data, including flat file, indexed compressed files, relational databases, and object oriented databases, and their associated query technologies; e.g. file formats, input/output libraries, string searching, structured query language, object-oriented structured query language, hypertext markup language/common gateway interface, and other specialized interfaces. Designed for computational science students. Computer science majors must obtain adviser approval. See Computer Science 514.

CS 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.

CS 520. Advanced Programming Languages (3)

Prerequisites: Computer Science 237, 310, and 320.

Object oriented programming, concurrent programming, logic programming. Implementation issues.

CS 530. Systems Programming (3)

Prerequisites: Computer Science 237 and 310.

Design and implementation of system software. Relationship between software design and machine architecture. Topics from assemblers, loaders and linkers, macro processors, compilers, debuggers, editors. Introduction to software engineering and review of programming fundamentals and object oriented concepts. Large project in object oriented programming is required. Not acceptable for the M.S. degree in computer science.

CS 532. Software Engineering (3)

Prerequisites: Computer Science 320 and 530.

Theory and methodology of programming complex computer software. Analysis, design, and implementation of programs. Team projects required.

CS 535. Object-Oriented Programming and Design (3)

Prerequisites: Computer Science 310 and 320.

Basic concepts of object-oriented programming; classes, objects, messages, data abstraction, inheritance, encapsulation. Object-oriented design methodology.

CS 537. Programming for GIS (3)

Prerequisite: Computer Science 310 or Geography 484.

Customization of Geographic Information Science application development platforms with emphasis on object oriented programming and component architecture. Prominent examples are Map Objects with Visual Basic, Map Objects with Java. Considerable programming effort required, especially in Graphical User Interface development.

CS 540. Software Internationalization (3)

Prerequisite: Computer Science 310.

Principles, techniques, and resources for design and implementation of software localizable to multiple languages and/or cultures, including detailed examination of internationalization features provided by one or more widely used modern programming languages.

CS 545. Introduction to Web Application Development (3)

(Offered only in the College of Extended Studies)

Prerequisite: Computer Science 310.

CS 546. Human Computer Interfaces (3)  
(Offered only in the College of Extended Studies)  
Prerequisites: Computer Science 310 and 320.  
Common interface idioms and support available for loose integration into aesthetically appealing and practical, efficient interaction between human and machine. Editors, browsers, games, networking sites, posting boards, etc. Principles that are ubiquitous among tools for HCI development.  

CS 547. Programming and Scripting Languages for Web Applications (3)  
(Offered only in the College of Extended Studies)  
Prerequisites: Computer Science 310 and 320.  
Principles and practice of dynamic and scripting and functional languages used in web applications. Basic language concepts, data structures in dynamic languages, code structure, code quality, testing, string manipulation, dynamic code generation.  

CS 550. Artificial Intelligence (3)  
Prerequisites: Computer Science 310 and either Mathematics 245 or 523.  

CS 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. Kinematics of planar robots. Design and implementation of robot joint controllers. Robot programming languages and environments, and robot command interfaces.  

CS 558. Computer Simulation (3)  
Prerequisites: Computer Science 310 and Statistics 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.  

CS 559. Computer Vision (3)  
Prerequisites: Computer Science 310 and Mathematics 254.  
Algorithms and computer methods for processing of images. Visual perception as a computational problem, image formation, characterization of images, feature extraction, regional and edge detection, computer architectures for machine vision.  

CS 560. Algorithms and Their Analysis (3)  
Prerequisites: Computer Science 310 and Mathematics 245.  
Algorithms for solving frequently occurring problems. Analysis techniques and solutions to recurrence relations. Searching and sorting algorithms. Graph problems (shortest paths, minimal spanning trees, graph search, etc.). NP complete problems. Not acceptable for the M.S. degree in Computer Science.  

CS 562. Automata Theory (3)  
Prerequisite: Mathematics 245 or 521A.  

CS 570. Operating Systems (3)  
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. Not acceptable for the M.S. degree in Computer Science.  

CS 572. Microprocessor Architecture (3)  
Prerequisites: Computer Science 370 and knowledge of the C programming language.  

CS 574. Computer Security (3)  
Prerequisites: Computer Science 310, Mathematics 245, 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.  

CS 576. Computer Networks and Distributed Systems (3)  
Prerequisite: Credit or concurrent registration in Computer Science 570.  
Basic networking concepts to include seven-layer reference model, transmission media, addressing, subnetting and supernetting, networking devices, LANs and WANs, internetworking, distributed processing, and client-server model. Basic concepts and protocols of TCP/IP protocol suite and basic Internet services.  

CS 581. Computational Linguistics (3)  
(Same course as Linguistics 581)  
Prerequisite: Computer Science 320 or Linguistics 571 or 572.  
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.  

CS 582. Introduction to Speech Processing (3)  
Prerequisite: Computer Science 310.  

CS 583. 3D Game Programming (3)  
Prerequisite: Computer Science 310 or equivalent programming background.  
Development of programming skills using software environment of a game engine and its scripting language. 3D concepts for game play, modeling, and programming. Roles needed in software development team. Contrast creation of original 3D object models for game world with incorporation of pre-created generic models.  

CS 596. Advanced Topics in Computer Science (1–4)  
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 master's degree with approval of the graduate adviser.
GRADUATE COURSES

NOTE: Classified graduate standing is expected for all graduate courses.

CS 600. Methods in Bioinformatics, Medical Informatics, and Cheminformatics (3) (Same course as Bioinformatics and Medical Informatics 600)
Prerequisites: Three units of calculus and graduate standing. Computer, mathematical, and engineering techniques for bioinformatics, cheminformatics, and medical informatics. Techniques used in microarray data analysis, gene and protein sequence alignment, and classification techniques in medical decision making.

CS 605. Scientific Computing (3) (Same course as Computational Science 605)
Prerequisites: Graduate standing and knowledge of the C programming language or FORTRAN or Computational Science 526. Parallel programming using message passing to include high performance computing and MPI language extensions.

CS 609. Computational Genomics and Bioinformatics (3) (Same course as Bioinformatics and Medical Informatics 609)
Prerequisite: Computer Science 503 or 514. Biological and genomic data. Application of computational algorithms to biological questions. Post-genomic techniques in annotation and comparison of microbial and eukaryotic genome sequences.

CS 615. Spatial Database (3)
Prerequisite: Computer Science 514. Recommended: Computer Science 560. Strategies for databases in which locations are prominent. Access strategies such as quadtrees and R-trees. Topological and other spatial extensions to query languages. Spatial models like non-intersection. Oracle spatial features. Object and object-oriented databases.

CS 620. 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.

CS 635. Advanced Object-Oriented Design and Programming (3)
Prerequisites: Computer Science 535 and knowledge of an object-oriented programming language. Advanced topics in object-oriented programming and design, code reuse, building class libraries, quality of objects, coupling, cohesion, design patterns, distributed objects.

CS 636. Management of Software Development (3)
Prerequisite: Computer Science 532 or 535. Managing software projects. Modern software management process models. Project planning, cost estimation, tracking and control, staffing, risk management, and software process improvement.

CS 645. Advanced Web Application Development (3) (Offered only in the College of Extended Studies)
Prerequisite: Computer Science 546. XHTML, CSS, JavaScript, client-side and server-side scripting, Java servlets, JSP, Frameworks, Server systems and development tools appropriate for large, complex project. SQL database via JDBC.

CS 646. Mobile Application Development (3) (Offered only in the College of Extended Studies)
Prerequisite: Computer Science 546. Design and implementation of applications for smart mobile phones and mobile devices. May be repeated with new content. See Class Schedule for specific content, including device types. Maximum credit six units applicable to a master’s degree.

CS 648. Advanced Topics in Web and Mobile Applications (3) (Offered only in the College of Extended Studies)
Prerequisite: Computer Science 545. Advanced technologies, issues, and concepts in Web and mobile software development. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master’s degree.

CS 653. Data Mining and Knowledge Discovery (3)
Prerequisite: Computer Science 320. Foundations of data mining and knowledge discovery. Diverse methods, algorithms, design techniques and application practice including statistical and Bayesian methods, pattern recognition, clustering, knowledge discovery in data sets, machine learning, neural networks, rough and fuzzy sets.

CS 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.

CS 657. Intelligent Systems and Control (3)
Prerequisites: Computer Science 556 and 560 or Computer Science 530. Genetic and evolutionary algorithms, genetic programming and applications, fuzzy logic and approximate reasoning, rule-based inference engines, intelligent path planning and applications to robotics, dynamic systems and their simulations using Simulink, conventional control and intelligent control, intelligent agents, autonomous and multi-agent systems.

CS 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.

CS 662. Theory of Parallel Algorithms (3)

CS 664. Theory of Computability (3)
Prerequisite: Computer Science 562. Turing machines and other formal models of computation. Recursive function theory. The Ackermann function. Solvable and unsolvable problems.

CS 666. Advanced Distributed Systems (3)
Prerequisite: Computer Science 570. Design of distributed systems including abstract models, algorithms, and case studies of real-world systems. Group research related to distributed systems.

CS 682. Speech Processing (3)
Prerequisites: Graduate standing, Computer Science 310, Mathematics 254, Statistics 551A. Algorithms and methods for processing of speech. Feature extraction, human speech production and perception, pattern recognition for acoustic and language modeling as applied to automatic speech and speaker recognition.

CS 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. Credit for 596 and 696 applicable to a master’s degree with approval of the graduate adviser.

CS 705. Advanced Parallel Computing (3) (Same course as Computational Science 705)
Prerequisite: Computer Science 605 [or Computational Science 605]. Design of distributed systems including abstract models, algorithms, and case studies of real-world systems. Group research related to distributed systems.

CS 790. Practicum in Teaching of Computer Science (1) Cr/NC
Prerequisite: Award of graduate teaching associateship in computer science. Supervision in teaching computer science. Lecture writing, style of lecture presentation and alternatives, test and syllabus construction, and grading system. Not applicable to an advanced degree. Required for first semester GTA’s.
CS 792. Curricular Practical Training (1) Cr/NC
Prerequisites: Approval of graduate adviser and SDSU International Student Center.
Supervised work experience. Maximum credit three units applicable to a master's degree in computer science.

CS 797. Research (1-3) Cr/NC/RP
Prerequisite: Six units of graduate level computer science courses.
Research in computer science. Maximum credit six units applicable to a master's degree.

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

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

CS 799B. Thesis or Project Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis or Project 799A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP 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.

CS 799C. Comprehensive Examination Extension (0) Cr/NC
Prerequisite: Completion or concurrent enrollment in degree program courses.
Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.

For additional courses useful to computer scientists, see:
- Mathematics 523. Mathematical Logic
- Mathematics 541. Introduction to Numerical Analysis and Computing
- Mathematics 542. Introduction to Computational Ordinary Differential Equations

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Counseling and School Psychology

Refer to “Education” in this section of the bulletin.
Criminal Justice and Criminology
In the School of Public Affairs and the Department of Sociology
In the College of Professional Studies and Fine Arts and
In the College of Arts and Letters

OFFICE: Professional Studies and Fine Arts 100
TELEPHONE: 619-594-1948 / FAX: 619-594-1165

Faculty
Stuart D. Henry, Ph.D., Professor of Public Affairs,
Director of School of Public Affairs
Shawn T. Flanigan, Ph.D., Professor of Public Affairs
Ruth Xiaoru Liu, Ph.D., Professor of Sociology
Jung Min Choi, Ph.D., Associate Professor of Sociology
Paul J. Kaplan, Ph.D., Associate Professor of Public Affairs
Michael A. McCall, Ph.D., Associate Professor of Sociology
Jeffrey S. McIwain, Ph.D., Associate Professor of Public Affairs
Dana M. Nurge, Ph.D., Associate Professor of Public Affairs
(Graduate Coordinator)
Joshua M. Chanin, Ph.D., J.D., Assistant Professor of Public Affairs
Megan B. Welsh, Ph.D., Assistant Professor of Public Affairs

Assistantships
Graduate research assistantships, graduate teaching assistantships, and scholarships are available to a limited number of qualified students. Please speak with school director for more information. This program can prepare students for a career in college teaching.

General Information
The School of Public Affairs in the College of Professional Studies and Fine Arts, in conjunction with the Department of Sociology in the College of Arts and Letters, offer graduate study leading to the Master of Science degree in criminal justice and criminology.

Students pursuing a Master of Science degree in criminal justice and criminology will master criminological theory, quantitative and qualitative research methods, and will learn to apply theory and methods to real-world research and policy issues. Students will also examine criminal justice policy issues at the local, state, national, and international levels.

Research facilities include the Institute of Public and Urban Affairs and the Social Science Research Laboratory. The San Diego metropolitan region affords significant research and internship opportunities for graduate students in federal, state, and local agencies as well as in community-based or non-profit organizations.

Admission to Graduate Study
All students must satisfy the general requirements for admission to the university with classified graduate standing, as described in Part Two of this bulletin. Students must also satisfy the following requirements: (1) a 3.0 grade point average in the undergraduate major and a 3.00 overall grade point average; (2) an acceptable score on the GRE General Test (verbal and quantitative); (3) two letters of recommendation from faculty or practitioners who are familiar with the student's academic work and/or employment performance; and (4) a 500-word essay addressing professional and educational goals and stating how a Master of Science degree in criminal justice and criminology will help to achieve these goals.

Students are expected to have undergraduate proficiency in the following four areas: (1) basic knowledge of the criminal justice system; (2) basic knowledge of criminological theory (crime causation); (3) statistics; and (4) research methods.

Students whose preparation is deemed insufficient by the graduate adviser may be conditionally admitted and will be required to complete specified courses in addition to the minimum required for this degree.

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.

All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the School of Public Affairs as specified below.

Graduate Admissions
The following materials should be submitted as a complete package directly to:

Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;

NOTE:
• Students who attended SDSU need only submit transcripts for work completed since last attendance.
• Students with international coursework must submit both the official transcript and proof of degree.

(2) GRE scores (http://www.ets.org SDSU institution code 4682);

(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

School of Public Affairs
The following admissions materials must be submitted electronically via DecisionDesk, http://gra.sdsu.edu/decisiondesk/ before April 1:

(1) Letters of recommendation (two letters from persons familiar with the applicant's academic ability);

(2) Personal statement (500 word essay) of professional and educational goals.
Advancement to Candidacy

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

Specific Requirements for the Master of Science Degree

(Major Code: 22091) (SIMS Code: 662001)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master’s degree in Part Four of this bulletin, students must complete an officially approved course of study as outlined below. Students must earn a minimum grade point average of B (3.0) in the master’s program and no less than a B- grade in each core course. All students in this program will complete a thesis or project (Plan A) or comprehensive written examination (Plan B).

Graduate Program (33 units total)

Substantive Courses (15 units required):
- CJ 601 Seminar in the Administration of Criminal Justice (3)
- CJ 602 Seminar in Comparative Criminal Justice System (3)
- CJ 603 Seminar in Community and Restorative Justice (3)
- CJ 604 Seminar in Criminal Justice and Urban Administration (3)
- CJ 605 Seminar in Juvenile Justice and Youth Violence (3)

Research Methods Courses (6 units required):
- P A 604 Methods of Analysis in Public and Urban Affairs (3)
- P A 606 Seminar in Quantitative Approaches to Public Administration (3)

Criminal Justice and Criminological Theory (3 units required):
- SOC 743 Seminar in Criminology and Criminal Justice Theory (3)

Electives (6 units required):
- CJ 570 Organized Crime: Domestic and International Perspectives (3)
- CJ 796 Internship in Criminal Justice (3-12) Cr/NC
- SOC 601 Advanced Classical Social Theory: Core Course (3)
- SOC 608 Advanced Qualitative Methods: Core Course (3)
- SOC 796 Field Practicum (3) Cr/NC

Criminology or Sociology 500- to 700-level course (3)

Culminating Experience (3 units required):
Students must complete either a thesis or a comprehensive examination to graduate.
- Plan B (Comprehensive Examination): CJ 797 Research in Criminal Justice (3) Cr/NC/RP

Courses Acceptable for Master’s Degree Program in Criminal Justice and Criminology (CJ)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

CJ 510. Contemporary Issues in Law Enforcement (3)
Prerequisite: Criminal Justice 310.
Assessment of problems confronting administrators of law enforcement agencies and of recent efforts to enhance the capability of agencies to control criminal activity while guarding individual liberties.

CJ 520. Prosecutorial Function (3)
Prerequisite: Criminal Justice 300.
Prosecutor’s function at local, state, and federal levels and in selected foreign nations, including appraisal of proposed national standards and goals for prosecutors.

CJ 531. Probation and Parole (3)
Prerequisite: Criminal Justice 300.
Basic concepts, history, legislation, and practices used in work with juveniles and adults who have been placed on probation or parole; criteria of selection, methods of supervision, and elements of case reporting.

CJ 540. Applied Planning, Research, and Program Evaluation in Criminal Justice (3)
Prerequisite: Criminal Justice 300.
Application of planning, research, program development, and evaluation principles to field of criminal justice.

CJ 543. Community Resources in Criminal Justice (3)
Prerequisite: Criminal Justice 300.
Present and probable roles of public and private agencies and volunteers in criminal justice.

CJ 550. Study Abroad: Criminal Justice (3)
Prerequisites: Criminal Justice 301 and upper division standing.
Selected topics in comparative criminal justice. Course taught abroad. May be repeated once with new content. See Class Schedule for specific content. Maximum credit six units.

CJ 570. Organized Crime: Domestic and International Perspectives (3)
Prerequisite: Criminal Justice 300.
Interdisciplinary analysis of organized crime’s impact on criminal justice and public policy on both domestic and international levels.

CJ 571. Drugs: Domestic and International Perspectives (3)
Prerequisite: Upper division major or graduate standing.
Interdisciplinary social science analysis of illicit drug use, markets, and trafficking. Comparative assessment of the efforts of state and non-state actors to regulate, counter, and disrupt illicit drug use, markets, and trafficking.

CJ 572. Dark Networks, Crime, and Security (3)
Prerequisites: Upper division major or graduate standing and Criminal Justice 570.
Advanced interdisciplinary social science analysis of social networks engaged in criminal activity and intelligence and security policies, as well as the actors that comprise these networks. Social network and structural analysis methods.

CJ 596. Selected Topics in Criminal Justice (1-3)
Prerequisite: Criminal Justice 300.
Selected current topics in criminal justice. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree.
GRADUATE COURSES

**CJ 601. Seminar in the Administration of Criminal Justice (3)**
Prerequisite: Criminal Justice 301.
The administrative problems of criminal justice systems.

**CJ 602. Seminar in Comparative Criminal Justice System (3)**
Prerequisite: Criminal Justice 301.
The criminal justice system as both cause and consequence of social change; nature of institutional change with application to criminal justice system components.

**CJ 603. Seminar in Community and Restorative Justice (3)**
Community and restorative justice movement from local, national, and international perspectives. Theories, policies, practices, and research associated with community and restorative justice.

**CJ 604. Seminar in Criminal Justice and Urban Administration (3)**
Prerequisite: Criminal Justice 540.
Influences on crime control and criminal justice process of actions by urban administrators, legislators and private sector in areas such as housing, education, public health and transportation, and urban development policies.

**CJ 605. Seminar in Juvenile Justice and Youth Violence (3)**
Prerequisite: Graduate standing.
Juvenile justice system in U.S. and throughout the world. Responses to delinquency and youth violence. History and foundations of juvenile court, juvenile justice reforms, context, causes, and correlates of youth violence and gang involvement, including programs and policies designed to address these problems.

**CJ 696. Selected Topics in Criminal Justice (3)**
Prerequisite: Criminal Justice 601 or 602.
Analysis of contemporary issues of major import to the administration of criminal justice. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

**CJ 791. Seminar in Readings in Criminal Justice (3)**
Prerequisite: Six graduate units in criminal justice.
Selected readings in the literature of criminal justice.

**CJ 796. Internship in Criminal Justice (3-12) Cr/NC**
Prerequisite: Consent of instructor.
Students will be assigned to various government agencies and will work under joint supervision of agency heads and the course instructor. Participation in staff and internship conferences. Maximum credit 12 units.

**CJ 797. Research in Criminal Justice (3) Cr/NC/RP**
Prerequisite: Consent of coordinator of criminal justice.
Research in one of the areas of criminal justice administration. Maximum credit six units applicable to a master's degree.

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

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

**CJ 799B. Thesis Extension (0) Cr/NC**
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP 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.

**CJ 799C. Comprehensive Examination Extension (0) Cr/NC**
Prerequisite: Completion or concurrent enrollment in degree program courses.
Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.

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**Dance**
Refer to “Music and Dance” in this section of the bulletin.

**Dual Language and English Learner Education**
Refer to “Education” in this section of the bulletin.
Faculty
Catalina Armuedo-Dorantes, Ph.D., Professor of Economics, Chair of Department
Christiana Hilmer, Ph.D., Professor of Economics
Michael J. Hilmer, Ph.D., Professor of Economics
Jennifer Y. Imazeki, Ph.D., Professor of Economics
Kangoh Lee, Ph.D., Professor of Economics (Graduate Adviser)
Hisham S. Foad, Ph.D., Associate Professor of Economics
Quazi Shahriar, Ph.D., Associate Professor of Economics
Ryan Abman, Ph.D., Assistant Professor of Economics
Clark Lundberg, Ph.D., Assistant Professor of Economics

Assistantships
A number of teaching and research assistantships are available for qualified students. Applications permitting up to 20 hours of service per week are available. In addition, students interested in pursuing teaching careers may apply for a teaching associate position. Application forms and additional information may be obtained from the graduate student coordinator of the Department of Economics.

Scholarships
Two general scholarship programs are available for qualified incoming and continuing economics M.A. students. Applications for the Terhune Scholarship and the McCuen Scholarship must be submitted to the Office of Financial Aid and Scholarships by March 15 for awards distributed the following academic year. Terhune awards can be up to $10,000 and McCuen awards can be up to $50,000 annually. The department administers several additional scholarships, which are awarded each spring semester. These include the Center for Public Economics awards ranging from $300 to $1,500. Application forms and additional information may be obtained from the department office for these scholarship opportunities.

General Information
The Department of Economics offers a Master of Arts degree in economics. The program provides students with advanced training in decision-making techniques and quantitative analysis by building on a core of applied microeconomics and econometric classes. Students learn to apply analytic methods to business and policy issues, use advanced econometric methods and computer software. An internship program provides students with valuable work experience. The program is designed to (1) prepare students for careers in consulting, domestic and multinational firms and government agencies, (2) provide students with university-level teaching experience, and (3) provide advanced training in economics for students planning on entering a Ph.D. program.

Admission to Graduate Study
Students applying for admission to the Master of Arts program in economics should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee by February 1 for fall admission.

All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the Department of Economics.

Graduate Admissions
The following materials should be submitted by March 1 for fall admission:

Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;

NOTE:
• Students who attended SDSU need only submit transcripts for work completed since last attendance.
• Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

(2) GRE scores (http://www.ets.org SDSU institution code 4682);

(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

Department of Economics
The following materials must be submitted electronically via DecisionDesk, http://gra.sdsu.edu/decisiondesk by March 1.

(1) Two letters of recommendation;

(2) A personal statement of no more than 750 words that describes why you wish to pursue graduate study in economics.

International students interested in applying should first contact the International Student Center.

Visit the website at http://www-rohan.sdsu.edu/~econ/graduate.htm.

Advancement to Candidacy
In addition to the general requirements for advancement to candidacy described in Part Four of this bulletin, the student must have completed Economics 630, 631, 640, and 641 with at least a 3.0 (B) average and no individual core course grade lower than a 2.7 (B-). Deficiencies may be addressed by retaking core courses.

Specific Requirements for the Master of Arts Degree
(Major Code: 22041) (SIMS Code: 111901)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master’s degree described in Part Four of this bulletin, the student must complete an approved graduate program of 32 units. Each program must include Economics 630, 631, 640, 640L, 641, 641L, 740, and 795. No program may contain more than nine units of approved courses outside economics. In addition, no program may contain more than six units of 500-level courses.

A written comprehensive examination covering the core fields of microeconomics and econometrics is required for Plan B students. Students selecting Plan A must include Economics 799A in their program and complete a master’s thesis.
Courses Acceptable for Master's Degree Program in Economics (ECON)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

ECON 507. Mathematical Economics (3)
Prerequisite: Mathematics 124 or 150. Recommended: Economics 320 or 321.
Theoretical foundations of microeconomic and macroeconomic theories. Applications of calculus and linear equations to constrained optimization, macro models, elasticity, general equilibrium, and input-output analysis.

ECON 561. International Trade (3)
Prerequisites: Economics 320 and 321.

ECON 592. International Monetary Theory and Policy (3)
Prerequisite: Economics 320 or 490.

ECON 596. 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. 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 applicable to a master's degree with approval of the graduate adviser.

GRADUATE COURSES

ECON 630. Microeconomic Theory (3)
Prerequisite: Economics 321.
Theories of the consumer, the firm, and the market. Topics in welfare and general equilibrium. Duality and uncertainty.

ECON 631. Applied Microeconomic Methods (3)
Prerequisite: Economics 630.
Decision-making techniques in applied microeconomics including cost-benefit analysis, choice under uncertainty and applied game theory techniques.

ECON 640. Econometrics (3)
Prerequisites: Economics 321; Mathematics 120 or 121 or 150.
Measurement in economics. Use of economic models involving multiple regression analysis, simultaneous equation systems, and time series analysis.

ECON 640L. Econometrics Laboratory I (1)
Two hours of laboratory for 12 weeks.
Prerequisite: Concurrent registration in Economics 640.
Data analysis and econometric modeling using SAS. Applied statistical skills and SAS programming skills necessary to perform advanced data analysis to construct datasets, build, and estimate statistical models covered in Economics 640.

ECON 641. Applied Research in Econometrics (3)
Prerequisite: Economics 640.
Econometric applications and techniques including discrete choice, panel data simultaneous equations and time series. Data analysis and econometric modeling using STATA. Applied statistical skills and STATA programming skills necessary to perform advanced data analysis to construct datasets, build, and estimate statistical models covered in Economics 641.

ECON 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

ECON 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

ECON 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
Seminar in International Trade and Commercial Policy

ECON 720. Seminar in Development and Planning (3)
Prerequisite: 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

ECON 730. Seminar in Macroeconomic Policy (3)
Prerequisite: Consent of instructor.
Advanced treatment of research design and methodology. Application of empirical techniques to selected problems.

ECON 750. Seminar in History of Economic Thought (3)
Prerequisite: 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

ECON 795. Internship in Economics (3) Cr/NC
Prerequisites: Economics 630, 640, and approval of graduate adviser.
Students will be assigned to various jobs in which economic theory can be applied to decision making. Supervision will be shared by the graduate adviser and on-the-job supervisor.

ECON 797. Research (3) Cr/NC/RP
Prerequisites: Classified graduate standing and consent of instructor.
Independent research project in an area of economics.
ECON 798. Special Study (1-3) Cr/NC/RP
Prerequisite: Consent of staff; to be arranged with department chair and instructor.
Individual study. Maximum credit six units applicable to a master's degree.

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

ECON 799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP 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.

ECON 799C. Comprehensive Examination Extension (0) Cr/NC
Prerequisite: Completion or concurrent enrollment in degree program courses.
Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.
General Information

The College of Education offers graduate study leading to the Master of Arts degree in education with concentrations in the following: counseling, dual language and English learner education, elementary curriculum and instruction, learning design and technology, postsecondary educational leadership and instruction, reading education, secondary curriculum and instruction, PreK-12 educational leadership, special education, and teaching. Some of these concentrations are designed to permit concurrent completion of the requirements for the corresponding advanced degree program.

Graduate study is also offered leading to the Master of Science degree in counseling, the Master of Science degree in rehabilitation counseling, and the Educational Specialist degree in school psychology.

The College of Education offers advanced graduate study leading to doctoral degrees in education: the Doctor of Education (Ed.D.) and the Doctor of Philosophy (Ph.D.). The Ed.D. in educational leadership is offered independently with concentrations in PreK-12 school leadership and community college/postsecondary leadership. Authorized by Senate Bill 724 passed in 2005, the Ed.D. was designed as a professional degree for aspiring school and community college educational administrators to develop advanced knowledge and skills by conducting research on significant problems of practice that have regional and national implications. PreK-12 and community college practitioners team with College of Education faculty in all aspects of the program.

Our graduate teaching associations program can prepare students for a teaching career.

The Ph.D. degrees are offered jointly with collaborating universities that emphasize theory and research underlying educational practice as preparation for positions in higher education, school, and other public and private organizations. The Doctor of Philosophy (Ph.D.) in education with an emphasis on democratic schooling and social justice is offered jointly with Claremont Graduate University. Inquiries should be addressed to SDSU/CGU Ph.D. program office at 619-594-6544.

The degree of Doctor of Philosophy (Ph.D.) in mathematics and science education is offered jointly with the University of California, San Diego. For specific information about this program, refer to the Mathematics and Science Education section of this bulletin.

Admission to Doctoral Study

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.

All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the College of Education (refer to the appropriate degree section for the address to submit additional information).

Graduate Admissions

The following materials should be submitted as a complete package directly to:

Graduate Admissions
Enrollment Services
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;

NOTE:
- Students who attended SDSU need only submit transcripts for work completed since last attendance.
- Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

(2) GRE scores (http://www.ets.org SDSU institution code 4682);
(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682);
(4) Statement of purpose;
(5) Three academic and/or professional letters of recommendation using the form in the online application;
(6) A current curriculum vitae or resume listing work experiences, education, awards, publications, and presentations;
(7) Examples of professional and/or academic writing;
(8) Program application;
(9) CGU institutional code 4053.

The following admissions materials must also be submitted directly to:

Office of Admissions
SDSU/CGU Doctoral Program in Education
Claremont Graduate University
170 E. Tenth St.
Claremont, CA 91711-6163

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;

NOTE:
- Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

(2) GRE scores (http://www.ets.org, CGU institution code 4053) – taken within five years of the date of the application;
(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org, CGU institution code 4053).

Doctor of Education (Ed.D.) Degree in Educational Leadership

The following admissions materials must be submitted via DecisionDesk, http://gra.sdsu.edu/decisiondesk/:

(1) Program application;
(2) Three letters of recommendation;
(3) Curriculum vitae or resume;
(4) Statement of purpose;
(5) Examples of professional and/or academic writing;
(6) Employer statement of nomination or support.

Doctor of Philosophy (Ph.D.) Degree in Education

All applicants must have completed a master’s degree program prior to admission and reside in San Diego County or commit to relocating to San Diego County if admitted to the program.

The following materials should be submitted via our online supplemental program application by March 1 for the fall semester at http://gra.sdsu.edu/decisiondesk/:

(1) Online supplemental program application;
(2) Three academic and/or professional letters of recommendation using the form in the online application;
(3) A two to three page personal statement indicating reasons for pursuing doctoral study. The statement should include your reasons for seeking admission to this particular doctoral program, your perceived strengths and weaknesses in preparation for doctoral study, your research interests, and your relevant academic and employment experiences. Indicate why you believe the SDSU/CGU program is appropriate for you. Include the faculty at SDSU and CGU with whom you would like to work based on your thorough knowledge of their work. The personal statement should be double-spaced and typed;
(4) A current curriculum vitae or resume listing work experiences, education, awards, publications, and presentations;
(5) Unofficial or official transcripts from each university or college attended, including verification of completion of a master’s degree in education or a related field. If degree requirements have not yet been met, submit a transcript listing all work completed to date;
(6) GRE scores (http://www.ets.org, SDSU institution code 4682) – taken within five years of the date of the application.

The following materials should also be submitted directly to:

Office of Admissions
SDSU/CGU Doctoral Program in Education
Claremont Graduate University
170 E. Tenth St.
Claremont, CA 91711-6163

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;

NOTE:
- Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

(2) GRE scores (http://www.ets.org, CGU institution code 4053) – taken within five years of the date of the application;
(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org, CGU institution code 4053).
Doctoral and Educational Specialist Programs

Doctor of Philosophy Degree in Education

http://go.sdsu.edu/education/

Admission to the Degree Curriculum

The Doctor of Philosophy (Ph.D.) program in education is offered jointly by the faculty in the College of Education at San Diego State University (SDSU) and the faculty in the School of Educational Studies at Claremont Graduate University (CGU). The mission of the Ph.D. program in education is to develop scholars who are committed to advancing to candidacy.

For further information visit http://go.sdsu.edu/education/doc/default.aspx.

In addition to meeting the general requirements for admission to both institutions with classified graduate standing as outlined in their current bulletins, students must be recommended for admission by the program’s admissions committee on the basis of excellence as evidenced in the following materials:

1. Program application;
2. An earned master's degree in education or a related field from an accredited institution with a cumulative GPA of 3.0 or above;
3. Sufficient experience pertinent to the mission of the program to benefit from the program;
4. Acceptable scores on the Graduate Record Examination (GRE);
5. Three recommendation letters attesting to the academic and professional skills necessary for doctoral studies;
6. A personal statement of purpose reflecting the skills, experiences, and dispositions appropriate for the program;
7. Curriculum vitae or resume.

Students seeking admission to the SDSU/CGU Ph.D. program in education must apply online at http://go.sdsu.edu/education/sdsu-cgu-joint-phd-admissions.aspx. Any questions about the program should be directed to Dr. Rafaela M. Santa Cruz, director of the program.

Advancement to Candidacy

Advancement to candidacy occurs when the institutional form signed by the dissertation committee approving the dissertation proposal is processed. It is CGU policy that the oral defense of the dissertation not be scheduled sooner than six months after advancement to candidacy.

Specific Degree Requirements for the Ph.D. Degree in Education

(Major Code: 08011) (SIMS Code 331901)

- 72 semester units (minimum) of coursework (24 units at San Diego State University, 24 units at Claremont Graduate University; and 24 units transferred from master's degree);
- Two research tools (one at each institution);
- Two written qualifying examinations;
- The oral qualifying examination;
- A dissertation proposal;
- A written dissertation;
- The dissertation defense.

A minimum of 48 semester units of residency, 24 at each institution, is required before a student is eligible to schedule the oral qualifying examination. In the interest of establishing an effective working relationship with faculty at both SDSU and CGU, 12 of the student's first 24 units must be taken at CGU.

Research Tools

Two research tools are required. Their purpose is to assure proficiency in research methodologies including those most likely to be used in the dissertation project. One research tool in intermediate quantitative methods is satisfied by receiving a grade of B+ or better, by proving competence in a second language relevant to your doctoral research, or by special arrangement with a faculty member at CGU.

Written Qualifying Examinations

Two written qualifying examinations are required. The first qualifying examination is usually written as a research paper, a literature review on a research interest, or an examination. Students are eligible to sit for the first qualifying examination after completion of 46 units in the program (cumulative of SDSU courses, CGU courses, and master’s transfer units). This examination is to be co-supervised by a faculty member from each institution. Students must enroll in the capstone doctoral research seminar after completion of 62 cumulative units. A second qualifying examination will take the form of a mock dissertation proposal and will come out of the capstone seminar. The mock proposal may also serve as the framework for the final dissertation proposal that will be co-supervised by a faculty member from each institution.
Oral Qualifying Examination

The oral qualifying examination is scheduled when all coursework, including research tools, has been completed and two written qualifying examinations have been approved. Through the oral qualifying examination the student is called upon to demonstrate a range and depth of understanding of the field of education. The examination serves to determine whether or not the student has made satisfactory progress in developing capacities for understanding diversity, critical analysis, systemic change for performance improvement, community transformation, effective educational practice, and original research to be advanced to candidacy for the doctorate. The oral is a discussion and examination of the work completed in the Ph.D. program to this point, including but not limited to the work demonstrated in written qualifying examinations.

Dissertation

All doctoral students will complete a research-based dissertation. The dissertation will typically focus on (a) understanding diversity and its implications for education, (b) critically analyzing and developing educational policy, (c) engaging in systemic organizational change that improves performance and quality of life for all, (d) applying theory and research-based knowledge in transforming communities, or (e) using effective educational practices, including tools available through technology, to transform organizations. The primary goal of the dissertation is contributing to the knowledge base in education.

Dissertation Defense

The program coordinator schedules the dissertation defense upon notification by the dissertation committee that the dissertation draft is approved. The dissertation committee conducts the defense and may request revisions to the final dissertation manuscript during the oral defense.

Performance Expectations

Joint doctoral students must maintain a 3.0 GPA to be in good academic standing. Students must be continuously enrolled for the duration of their program by taking classes at either institution. Once required coursework at both SDSU and CGU has been completed, the student is required to maintain continuing registration at CGU through completion of all degree requirements.

Faculty

The faculty bring diverse research and teaching interests to the study of democratic schooling, social justice, and diversity in education. Among the members of the faculty, the student will find rich resources of expertise in such areas as public policy, organizational theory and leadership, curriculum and instruction, higher education, counseling and school psychology, language development, qualitative and quantitative analysis, bilingual and cross-cultural education, and educational technology.

San Diego State University

Director: J. Luke Wood
Faculty: Alfaro, Bezuk, Branch, Brandon, Bresciani Ludwik, Butler-Byrd, Cadiero-Kaplan, Cappello, A. Chizhik, Clement Lamb, Degeneffe, Duesbery, Estrada, Evans, Fisher, Frey, Gallego, Green, Hampton, Harris, Hatch, Ingrahaim, James-Ward, Johnson, Marshall, Monk, Moss, Olney, Pang, Park, Philipp, Potter, Pumpian, Ross, Santa Cruz, Sax, Soto, Sterling Aquino, Tucker, Vaughn, Wood

Claremont Graduate University

Dean: Allan M. Omoto
Faculty: Carter, Cohn, Drew, Ganley, Luschci, Maramba, Paik, Perez, Perkins, Poplin, Santibañez, Smith

Doctor of Education Degree in Educational Leadership

Admission to the Degree Curriculum

The Doctor of Education (Ed.D.) degree in educational leadership prepares leaders capable of initiating change and creating diverse educational institutions for the region’s P-14 student population. It is designed as a professional degree for PreK-12 school and community college/postsecondary leaders who will develop advanced leadership and research skills related to their own institutional settings. The program is committed to developing reflective leaders and change agents for complex educational organizations in diverse multicultural settings. Emphasizing theory, research, and practice, the program provides an opportunity for candidates to work in learning communities with faculty and practitioners to develop a deeper understanding of themselves as educational leaders and to develop the knowledge and skills needed to improve student learning. The program is offered through the Department of Educational Leadership and the Department of Administration, Rehabilitation and Postsecondary Education. There are two concentrations: PreK-12 school leadership and community college/postsecondary leadership.

A cohort of students will be admitted by May for classes starting in the fall semester.

In addition to meeting the general admission requirements, students must be recommended for admission by the program's graduate admissions committee on the basis of standards of excellence as evidenced in the following materials:

1. An earned baccalaureate degree and master's degree or equivalent from accredited institutions of higher education with a cumulative GPA in upper division and/or graduate study of 3.0 or above;
2. Sufficient preparation and experience pertinent to educational leadership to benefit from the program;
3. Submission of Graduate Record Examination (GRE) scores on the GRE tests;
4. Demonstrated leadership potential and skills including successful experience in schools, postsecondary education, community colleges, related fields and/or policy leadership;
5. Demonstrated academic excellence, problem-solving ability, and an interest in critically assessing and bringing about improvements within current educational policies and practices;
6. Three confidential letters of support attesting to the leadership ability and scholarship of the candidate;
7. Written statement of purpose reflecting understanding of the challenges facing the public schools or community colleges/institutions of higher education in California;
8. Curriculum vitae or resume;
9. Examples of professional and/or academic writings;
10. Statement of support for the candidate's doctoral studies from her/his employer or, in the cases where this is not provided, an indication of the candidate's plan for meeting the demands of the program and her/his professional responsibilities;
11. Personal interview with the Admissions and Standards Committee including a written response to a prompt provided by the committee.

Meeting the minimum requirements qualifies an individual for consideration, but does not guarantee admission to the program. Admission will be granted on a competitive basis.
Advancement to Candidacy

The written qualifying examination will occur at the end of the fourth semester in the program. The examination will cover the three areas of the program: (a) leadership core courses, (b) research methodology courses, and (c) concentration courses completed up to that time. The structure of the examination will be developed by the executive committee and administered by the program directors. In order to be eligible to participate in the portfolio defense (qualifying examination), a student must have completed all prior program coursework with a grade of B or better.

Once the doctoral student successfully completes the qualifying examination and has successfully completed all required courses at that stage in the program, the doctoral student will be advanced to candidacy.

Specific Requirements for the Ed.D. in Educational Leadership

Core Curriculum Requirements (27-30 units)

ED 815 Re-Thinking Leadership (3)
ED 836 Research and Writing Support (6-9) Cr/NC
ED 840 Seminar in Leadership in a Diverse Society (3)
ED 850 Seminar in Quantitative Methods of Inquiry (3)
ED 851 Seminar in Qualitative Methods of Inquiry (3)
ED 855 Seminar in Leadership for Developing Educational Systems (3)
ED 860 Seminar in Leadership and Educational Change (3)
ED 885 Seminar in Educational Program Planning and Evaluation (3)

Dissertation (12 units)

ED 899 Doctoral Dissertation (12) Cr/NC/RP

Concentration in PreK-12 School Leadership (21 units)
(Major Code: 08272) (SIMS Code: 331931)

EDL 707 Educational Law and Finance (3)
EDL 720 Human Resource Development in PreK-12 Educational Organizations (3)
EDL 755 Governance and Policy Development in PreK-12 Learning Organizations (3)
EDL 760 Practicum in PreK-12 Educational Organizations (2-6) Cr/NC/RP
EDL 830 Leadership for Learning (3)
EDL 880 Seminar in Topics in Educational Leadership (3)
ED 895 Seminar: Writing and Research (3)

Concentration in Community College/Postsecondary Leadership (18 units)
(Major Code: 08273) (SIMS Code: 331932)

ARP 801 Seminar in Community College History and Development (3)
ARP 810 Seminar in Community College Law and Finance (3)
ARP 812 Seminar in Budget and Resource Management in Community Colleges (3)
ARP 813 Strategic Planning in Community Colleges (3)
ARP 827 Seminar in Emerging Issues in Postsecondary Educational Leadership (3)

Three units selected from the following courses:
ED 852 Seminar in Advanced Quantitative Methods of Inquiry (3)
ED 853 Seminar in Advanced Qualitative Methods of Inquiry (3)

The program is designed to be completed in three calendar years including summer sessions. Classes are held during the late weekday afternoons/evenings, on weekends, and during the summer to accommodate the schedules of working adults. Some classes include a blend of in-class and distance learning technologies.

Dissertation

All doctoral students will complete a rigorous research-based dissertation integrating theory and research in the study of educational practice. The dissertation will include the results of the doctoral student’s independent research and will typically focus on an examination of (a) an educational issue, (b) a practice or program, (c) an educational policy, reform, or improvement, or (d) implementation studies within an educational organizational. Most dissertations will be studies undertaken in the local context, having the potential to contribute to solutions of educational problems. Dissertations will use a range of qualitative and quantitative research and evaluation methods. The dissertation will present the results of the doctoral student’s independent investigation in a manner that contributes both to professional knowledge in education and to the improvement of educational practice.

The primary goal of the dissertation is to generate knowledge that contributes to the understanding of educational practices, policies, reforms or improvements. Doctoral students who have not completed their dissertation after 12 semester units, must maintain continuous enrollment in the university by registering for at least one unit per semester.

Final Examination (Oral)

The dissertation committee, consisting of two university faculty and at least one community member, will conduct a final oral examination during which the doctoral student defends the dissertation. The dissertation defense will address the theoretical and conceptual background, relevant literature, data collection techniques, data analysis strategies, and results and implications concerning the question(s) studied.

Additional Requirements

Doctoral students who have not earned the professional administrative credential will be able to do so while enrolled in the Ed.D. program. Pre-K-12 doctoral students must complete additional practicum activities to demonstrate their competence in each of the principles of administrative practice specified by the California Commission on Teacher Credentialing. Students within the Pre-K-12 concentration are expected to complete an internship as part of their concentration. The internship (3 units) will typically occur at the end of the doctoral student’s coursework and will be congruent with the doctoral student’s professional goals.

Performance Expectations

Doctoral students must maintain a 3.0 GPA to be in good standing. Doctoral students who have not earned the professional administrative credential must meet the standards set forth in the California Commission on Teacher Credentialing approved program documents submitted by SDSU. Doctoral students who fail to make satisfactory academic progress may be officially disqualified from the university in writing after consultation with the executive committee. A doctoral student may be disqualified because of unsatisfactory academic progress only after a careful review and written recommendation by the Ed.D. program faculty. To ensure that a decision to disqualify a doctoral student from the program is just, basic due process requirements will be met, including an opportunity for appeal by the doctoral student following the guidelines in the Graduate Bulletin. A doctoral student who has been disqualified is considered to have been terminated from the university and will not be allowed to continue in the program, enroll in courses, or register again without readmission.

Faculty

The following faculty are available for teaching and serving on doctoral committees:

Administration, Rehabilitation and Postsecondary Education
Bresciani Ludvik, Degeneffe, Hampton, Harris, Olney, Sax, Wood

Educational Leadership
Fisher, Grey, James-Ward, Johnson, Marshall, Pumpian
Educational Specialist Degree In School Psychology

General Information

The Educational Specialist (Ed.S.) degree in school psychology, offered in the Department of Counseling and School Psychology, is an integrated graduate-professional program designed to prepare school psychologists who apply educational, psychological, and social and cultural foundations to create and engender a vision of educational equity in the public schools. The program prepares school psychologists with (a) ecological and systems perspectives by which to consider problem situations in the schools, (b) the cultural competencies to serve the multicultural populations of public schools, (c) the knowledge and skills to serve both general and special education populations, and (d) the skills to function as data-based change agents and consultants in the schools, providing a broad range of culturally-appropriate assessment-intervention services. A scientist-practitioner training model serves as a guide to the preparation of these data-based problem-solvers who will be prepared to serve as school psychologists in the public schools.

The Ed.S. program requires completion of an integrated sequence of coursework, supervised field experiences, and research across a minimum of four years of full-time study (or part-time study to result in no more than six years). The program is organized in seven curricular areas which closely align with the Standards and Association of School Psychologists (NASP) standards. These areas are delineated below. During the first two full-time years, students may complete the requirements for the Master of Science degree in counseling with a concentration in school psychology. At the end of the third full-time year, students stand for review and recommendation for the School Psychology Internship Credential awarded by the California Commission on Teacher Credentialing. In the last year of the program, students must complete a 1200 hour internship in the public schools, enroll in the accompanying professional development seminar, and engage in the development of a culminating professional portfolio. Satisfactory completion of all program requirements results in recommendation for the Ed.S. degree and the Pupil Personnel Services Credential in School Psychology. The credential authorizes the holder to function as a school psychologist in preschool through high school settings.

Typically, students enter the program with a bachelor’s degree and complete the requirements in the program's seven areas as listed below. Students who hold master's or doctoral degrees in closely related fields may complete the program on a “credential only” basis (Credential Code: 00804) or may seek the Ed.S. degree. All students must follow the regular application procedures and requirements. After admission, and in consultation with the adviser, students with graduate degrees may develop petitions for waiver of comparable coursework and a proposed sequence of study which are reviewed by the governing program faculty for approval prior to implementation.

Accreditation

The school psychology program is accredited by the California Commission on Teacher Credentialing and approved by the NASP. National accreditation facilitates eligibility for National Certification in School Psychology (NCSP), however, it does not guarantee certification, licensure, or credentialing 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.

Financial Assistance

The school psychology program has a long (since 1986) and successful record of obtaining federal funding for personnel preparation projects which provide financial support for selected full-time students. These projects are time-specific, applicants and students are referred to the program website and office for current information. Additionally, graduate assistantships are available to a limited number of students. The Department of Counseling and School Psychology sponsors the Gertrude Bell Scholarship and a loan fund honoring Professors Leonard Strom and John Schmidt which along with other university-wide programs, is administered by the Office of Financial Aid and Scholarships. First year students are eligible to apply for the department's Gertrude Bell Scholarship. Other forms of financial assistance administered by the university are presented elsewhere in this bulletin. Teaching assistantships may be available.

Admission

Applications are considered only once a year with review of applications beginning on December 15. We urge applicants to submit their applications by that date. The application requires three steps that must be completed simultaneously:

(1) All applicants must apply to the university online at http://www.calstate.edu/apply

(2) The following materials should be submitted as a complete package to:
- Graduate Admissions
- Enrollment Services
- San Diego State University
- San Diego, CA 92182-7416

- Official transcripts (in sealed envelopes) from all postsecondary institutions attended;
- GRE scores (http://www.ets.org SDSU institution code 4692);
- If medium of instruction was in a language other than English, official notification of English language score plus Test of Written English.

(3) Applicants complete a program application and provide supporting materials with their application. A complete application submission requires the application, experience profile, scanned and uploaded GRE scores, scanned and uploaded transcripts, required essays, and at least three references with contact information included. It is incumbent upon applicants to provide materials necessary by which their academic, cross-cultural, interpersonal, and professional readiness for the program can be discerned. Applicants may also include additional materials to include undergraduate papers, written evaluations of work performance, and a professional goals statement. Each application is reviewed by at least two core faculty members, who will rate the candidate in four areas of readiness:

- a. Completed program application checklist;
- b. Three letters of recommendation;
- c. Essay/personal statement;
- d. Curriculum vitae or resume;
- e. The California Basic Educational Skills Test (CBEST) (Out-of-state applicants may take the CBEST in their first semester);
- f. Supplemental material to enhance evaluation of your academic, cross-cultural, interpersonal, and professional readiness (e.g., course papers or projects, an evaluation from work, a brief videotape of you working with children). Applicants whose grade point averages fall below the university standard of 2.85 in the last 60 semester units or in the major MUST supply additional data in support of their academic readiness;
- g. Program Application Affidavit. Students must obtain the California Certificate of Clearance prior to beginning the field experience sequence in the fall semester of their first year.

Admission is a two-phase process: (1) completion of the online application portfolio and (2) small group interviews using authentic assessment activities. Successful applicants will demonstrate academic, professional, interpersonal, and cross-cultural readiness for this demanding graduate-professional program. It is strongly recommended that applicants have an undergraduate major or substantial coursework in behavioral sciences (e.g., psychology, sociology, social work), education (or liberal studies), child development, and/or ethnic studies prior to entering the program. The following courses are especially recommended: general psychology, developmental psychology, research and statistics in behavioral sciences, learning or cognition, social psychology or sociology, multicultural or culture-focused studies, and psychological or educational testing and measurement. There is one prerequisite course in development.

Application materials become the property of the program and will not be returned to the applicant. No minimum set of qualifications in any way guarantees admission. Additional information about the program can be found at http://go.sdsu.edu/education/csp/schoolpsychology.aspx.
Advancement to Candidacy

All students must meet the general requirements for advancement to candidacy, as described in Part Four of this bulletin and be recommended by the faculty. A student who holds classified standing may be advanced to candidacy for the M.S. degree with Concentration in School Psychology after completing at least 12 units of coursework on the official M.S. program of study with a minimum grade point average of 3.0 (B). Advancement to candidacy for the Ed.S. degree occurs when general requirements have been met and the student has earned a minimum grade point average of 3.0 (B) in at least 30 units listed on the official Ed.S. program of study.

Specific Requirements for the Educational Specialist Degree in School Psychology (Major Code: 20013) (SIMS Code: 331050)

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 Four of this bulletin. In addition, the student must demonstrate and document, in a comprehensive culminating portfolio, the integration and application of theory, research, and skills appropriate to the practice of school psychology.

Curricular Requirements for the Ed.S. in School Psychology

The school psychology program demands a specific sequence of courses and supervised experiences across seven curricular areas. The student, in collaboration with the adviser, must file the program’s sequence of study form prior to taking courses to ensure that all requirements are fulfilled in the correct sequence. The student entering with a bachelor’s degree must complete a minimum of 78 units (or up to 99 units with PPS credential) in the seven areas of the M.S./Ed.S. school psychology program, with course selection in collaboration with the adviser and consistent with the program structure, as indicated below. Students admitted to the Ed.S. or credential-only programs, with a previously earned graduate degree in a closely related field, may have completed graduate coursework consistent with the seven areas of the school psychology program. Such students may petition for course waiver(s) by presenting documentation of successful completion of comparable courses and attainment of associated knowledge and competencies; however, (a) the student must complete a minimum of 48 units in the SDSU Ed.S. program and (b) the full-complement of knowledge and skills must be demonstrated in each of the seven areas prior to recommendation for the Ed.S. degree.

1. Professional School Psychology:
   - *CSP 619 Foundations in Ecosystemic Thinking and School Psychology (3)
   - *CSP 730 Fieldwork in Counseling (3) Cr/NC
   - *CSP 730 Fieldwork in Counseling (3) Cr/NC
   - *CSP 780 Internship (2-12)
   Or other course(s) in the department or in a related field approved by adviser.

2. Research and Program Evaluation:
   - *CSP 710A Professional Seminar: Evaluating Educational and Psychological Interventions (3)
   - *CSP 710B Professional Seminar: Advanced Research and Evaluation in School Psychology (3)
   - CSP 760 Advanced Seminar in School Psychology (3-3)
   - *ED 690 Methods of Inquiry (3)
   Or other course(s) in the department or in a related field approved by adviser.

3. Social and Cultural Foundations:
   - *CSP 600 Cross-Cultural Counseling Communication Skills (2)
   - *CSP 600L Cross-Cultural Counseling Prepracticum (1) Cr/NC
   - *CSP 615 Seminar in Multicultural Dimensions in Counseling (3)
   - *CSP 750 Response to Intervention: Assessment and Instructional Support for Culturally and Linguistically Diverse Learners (3)
   - CSP 784 Advanced Consultation in Diverse Schools (3)
   Or other course(s) in the department or in a related field approved by adviser.

4. Educational Foundations (a minimum of 10 units):
   - *CSP 726 School Psychology Models and Practices in Family-School Collaboration (3)
   - *CSP 740 Practicum (1-6) Cr/NC
   Or other course(s) in the department or College of Education approved by adviser.

5. Psychological Foundations (a minimum of nine units):
   - CSP 723 School-Based Mental Health Interventions (3)
   - CSP 764 Advanced Educational Psychology: Developmental and Biological Bases of Behavior (3)
   Or other course(s) in the department or College of Education approved by adviser.

6. Assessment-for-Intervention:
   - *CSP 623 Ecobehavioral Assessment-Intervention (3)
   - *CSP 663 Response to Intervention: Assessment-Intervention for Learning I (3)
   - *CSP 664 Response to Intervention: Assessment-Intervention for Learning II (3)
   - CSP 751 Response to Intervention: Advanced Assessment-Intervention: Special Populations (3)
   - CSP 761 Dynamic Cognitive Assessment and Intervention (3)
   Or other course(s) in the department or in a related field approved by adviser.

7. Interventions:
   - *CSP 662B Counseling Interventions with Children and Adolescents: School Counseling and School Psychology (3)
   - CSP 680 Theory and Process of Consultation (3)
   And a minimum of nine units selected from the following:
   - *CSP 762 Prevention, Crisis Intervention, and Conflict Resolution in Schools (3)
   - CSP 771 Advanced Learning and Multi-Tiered Mediated Interventions (3)
   Or other course(s) in the department or in a related field approved by adviser.

8. Other courses as approved by adviser.

*Courses may be applied to the 48-unit Master of Science degree in counseling with a concentration in school psychology (Major Code: 08261) (SIMS Code: 331046)

Additional Requirements for the Optional School Psychology Credential

In addition to the requirements for the Ed.S. degree in school psychology, candidates may complete an additional 21 units for a California Pupil Personnel Services Credential with a specialization in school psychology. Requirements include: CSP 733 (3 units), CSP 752 (6 units) over two semesters, CSP 780 (12 units) over two semesters, which consists of a 1,200 hour internship in the public schools as the culminating supervised field experience; demonstrate and document competency in each of the NASP Standards within the program; and receive the formal recommendation of the school psychology faculty. Internship is completed as a full-time year-long experience; under special circumstances it may be possible to extend the internship on a half-time basis across two years. Interns will enroll in CSP 780 Internship: School Psychology (2-12) throughout the duration of their internship. It is expected that the student will complete the portfolio with concurrent enrollment in CSP 780, Internship.

Performance Expectations

Students must maintain the university minimum 3.0 grade point average with no grade lower than B-. Failing below a minimum 3.0 GPA automatically places a student on administrative academic probation. Such academic probation for two semesters or three grades of B- or lower (including NC), regardless of GPA, are grounds for dismissal from the program and a faculty review will ensue.
Adherence to the National Association of School Psychologists Principles for Professional Ethics is a mandatory requirement. Academic honesty is expected in all courses and supervised experiences (see Part One of this bulletin). Students who knowingly or unknowingly violate any part of the ethical code or engage in academic dishonesty may be dismissed from the program without further qualification regardless of coursework or other academic achievement.

Career Options

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. Interested candidates should inquire with the California Board of Behavioral Examiners.

Section II.
Master's Degree Programs

Admission to Graduate Study

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.

All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the College of Education (refer to the appropriate degree section for the address to submit additional information).

Graduate Admissions

The following materials should be submitted as a complete package directly to:
Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;

NOTE:
• Students who attended SDSU need only submit transcripts for work completed since last attendance.
• Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.
(2) GRE scores (http://www.ets.org SDSU institution code 4682);
(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

Program Admissions

All programs in the College of Education require the submission of a second application, the supplementary program application. The application is online at http://go.sdsu.edu/education/applynow.aspx. All letters of recommendation, personal statements, and other required documents are submitted through the online application. Refer to the specific program requirements to be submitted and department contact information for each program.

Master of Arts Degree in Education Counseling
(Major Code: 08261) (SIMS Code: 331021)
Submit the following in the supplementary program application:
(1) A personal statement;
(2) Employment and educational history;
(3) Three letters of recommendation.
For more information contact:
Department of Counseling and School Psychology
http://go.sdsu.edu/education/csp
619-594-6109

Dual Language and English Learner Education
(Major Code: 08994) (SIMS Code: 331956)
Submit the following in the supplementary program application:
(1) Two letters of recommendation;
(2) Letter of intent that includes reasons you wish to be admitted to the MA program.
For more information contact:
Department of Dual Language and English Learner Education
http://go.sdsu.edu/education/dle/
619-594-5155

Educational Leadership: Specialization in Postsecondary Education
(Major Code: 08271) (SIMS Code: 331911)

Educational Leadership: Specialization in Student Affairs in Postsecondary Education
(Major Code: 08271) (SIMS Code: 331913)
Submit the following in the supplementary program application:
(1) Two letters of recommendation.
For more information contact:
Department of Educational Leadership
http://go.sdsu.edu/education/edl/
619-594-4063

Elementary Curriculum and Instruction
(Major Code: 08021) (SIMS Code: 331946)

No new students are being admitted to this program until further notice.

For more information contact:
School of Teacher Education
http://go.sdsu.edu/education/ste/
619-594-6131

Mathematics Education (K-8)
(Major Code: 17012) (SIMS Code: 331947)

No new students are being admitted to this program until further notice.

Submit the following in the supplementary program application:
(1) One letter of recommendation;
(2) Two essays.
For more information contact:
School of Teacher Education
Attention Dr. Lisa Clement Lamb (Lisa.lamb@sdsu.edu)
http://go.sdsu.edu/education/ste/ma_mathematics.aspx
619-594-6131

Reading Education
(Major Code 08301) (SIMS Code: 331964)
Submit the following in the supplementary program application:
(1) Three professional letters of recommendation.
For more information contact:
School of Teacher Education
Attention Dr. Marva Cappello (cappello@mail.sdsu.edu)
http://go.sdsu.edu/education/ste/reading.aspx
619-594-6131
Master of Science Degree in Child and Family Development
(Major Code: 08081) (SIMS Code: 331982)

For more information contact:
Department of Special Education
http://go.sdsu.edu/education/sped/
619-594-6665

Submit the following in the supplementary program application:
(1) One letter of recommendation.
(2) Personal statement.
(3) Curriculum vitae or resume.
(4) California Basic Educational Skills Test (CBEST).
(5) Telephone or in-person interview conducted by one or more members of the child development faculty.

Master of Science Degree in Counseling
(Major Code: 08261) (SIMS Code: 331973)

No new students are being admitted to this program until further notice.

For more information contact:
School of Teacher Education
http://go.sdsu.edu/education/site/Default.aspx
619-594-6031

Special Education
(Major Code: 08081) (SIMS Code: 331973)

For more information contact:
Department of Special Education
http://go.sdsu.edu/education/sped/
619-594-6665

Master of Arts in Teaching Degree
(Major Code: 08292)

Submit the following in the supplementary program application:
(1) One letter of recommendation.
(2) Personal statement.
(3) Curriculum vitae or resume.
(4) Written personal statement of background, interests, work experiences, abilities, and career goals for a graduate degree in child development;
(5) Three letters of recommendation, one of which must be from an academic reference and another from an occupational reference;
(6) California Basic Educational Skills Test (CBEST).

Master of Science Degree in Counseling
(Major Code: 08281)

Submit the following in the supplementary program application:
(1) Three letters of recommendation;
(2) Personal statement;
(3) Curriculum vitae or resume;
(4) California Basic Educational Skills Test (CBEST).

For more information contact:
Department of Counseling and School Psychology
http://go.sdsu.edu/education/csp/mft.aspx
619-594-6109

Master of Science Degree in Counseling
School Counseling
(Major Code: 08281)

Submit the following in the supplementary program application:
(1) Three letters of recommendation;
(2) Personal statement;
(3) Curriculum vitae or resume;
(4) California Basic Educational Skills Test (CBEST).

For more information contact:
Department of Counseling and School Psychology
http://go.sdsu.edu/education/csp/schoolcounseling.aspx
619-594-6109

Master of Arts Degree in Education

Admission to the Degree Curriculum

Applicants must satisfy the general requirements for admission to the university with classified graduate standing, as described in Part Two of this bulletin. In addition, applicants 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 being recommended for classified graduate standing. (This is not applicable to students in the Departments of Administration, Rehabilitation and Postsecondary Education, Counseling and School Psychology, Learning Design and Technology, Special Education, and School of Teacher Education.)

A student desiring a concentration in educational leadership 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, dual language and English learner education, or in special education must also meet specific admission requirements. (For further information, refer to the College of Education, Office of Graduate Programs, or to the coordinators of the respective programs. Students in counseling and school psychology should go to the Department of Counseling and School Psychology website http://go.sdsu.edu/education/csp/Default.aspx.

Advancement to Candidacy

A student desiring a Master of Arts degree in education with a concentration in counseling, educational leadership, elementary curriculum, instruction, learning design and technology, reading education, or secondary curriculum and instruction may be advanced to candidacy upon completion of the basic requirements as described in Part Four of this bulletin.

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 Four 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 795A, or Plan B, in which three options are available, Education 791A (3 units) and 791B (1 unit); or Education 791A (3 units) and 791B (3 units); or Education 795A (3 units) and 799B (3 units). All candidates for the Master of Arts degree in education who elect Plan B must pass a comprehensive examination.
The Comprehensive Examination
This written 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. A 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 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 halfway 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

Counseling (Major Code: 08261) (SIMS Code: 331021)

The Department of Counseling and School Psychology offers a Master of Arts degree which prepares students to address the mental health and relational needs of culturally diverse populations. The program covers contemporary mental practices that focus on mental health recovery and trauma-informed care including integrated recovery and strength-based approaches. The degree is a building block for candidates to be better equipped to work with the mental health needs of children, youth, and adults. The program also helps prepare students to engage in more advanced training to be licensed professionals in mental health and counseling services. The degree prepares students to meet entry requirements for doctoral study.

1. Prerequisite: Admission to the Department of Counseling and School Psychology.
2. ED 690 Methods of Inquiry (3)
3. Core program (minimum of 15 units):
   a. Common Core (3 units):
      CSP 600 Cross-Cultural Counseling Communication Skills (2)
      CSP 600L Cross-Cultural Counseling Prepracticum (1) Cr/NC
   b. Foundations (minimum of 6 units):
      CSP 606A California Law and Ethics for Marriage and Family Therapy (3)
   c. Theory, Research, and Techniques (minimum of 6 units):
      CSP 601 Theoretical Foundations of Counseling and Family Therapy (3)
      CSP 618 Mental Health Recovery and the DSM: A Social Justice Perspective (3)
      CSP 622A Ecosystems Assessment-Intervention I: Students (3)
      CSP 622B Ecosystems Assessment-Intervention II: Schools (3)
      CSP 625 Marriage and Family Therapy Theories and Best Practices I (3)
      CSP 626 Marriage and Family Therapy Theories and Best Practices II (3)
      CSP 640 Testing and Assessment for Marriage and Family Therapists (2)
      CSP 645 College Planning and Career Development P-16 (3)
      CSP 650 Trauma and Crisis Counseling in Multicultural Community Context (1-3)
      CSP 662B Counseling Interventions with Children and Adolescents: School Counseling and School Psychology (3)
      CSP 670 Theory and Process of Group Counseling (2)
      CSP 670L Group and Community Counseling Laboratory (1) Cr/NC
      CSP 680 Theory and Process of Consultation (3)
      CSP 691 Violence in Couples' Relationships (1)
      CSP 762 Prevention, Crisis Intervention, and Conflict Resolution in Schools (3)
4. Research (3-6 units):
   a. ED 799A Thesis (3) Cr/NC/RP
   b. ED 795A-795B Seminar (3-3)
   c. ED 791A Evaluation Techniques (3)
   d. ED 791B Practicum: Evaluation (6)
5. Electives (6-9 units): Selected in consultation with adviser and may include courses listed above.

Dual Language and English Learner Education (Major Code: 08994) (SIMS Code: 331956)

The Master of Arts degree in education with a concentration in dual language and English learner education is designed to provide special knowledge and training for two diverse audiences with different career goals. Option 1, critical literacy and social justice, is geared for the classroom teacher or resource specialist who will be working directly with language minority students. Option 2, the outside specialization, has been developed to allow students to cross-specialize in additional areas. The nine to 12 unit outside specialization may be in other College of Education departments or in other cooperating departments across campus. Students with an outside specialization need approval for outside courses from both the Dual Language and English Learner Education department and the cooperating department.

Students in each specialization will take the same 18 units of research and core classes but their other 12 units may vary as described below. All students must follow the guidelines and procedures established for the Master of Arts degree in education (i.e. take a comprehensive examination based on core coursework after advancing to candidacy).
Research (required for both options): Nine units total.
ED 690 Methods of Inquiry (3) and
ED 795A-795B Seminar (6) or
ED 799A Thesis (3) Cr/NC/RP and
ED 197 Research (3) Cr/NC/RP

Option 1: Critical Literacy and Social Justice Specialization
(Major Code: 08994) (SIMS Code: 331965)
Core:
DLE 600A Foundations of Democratic Schooling (3) or
DLE 600B Foundations of Dual Language Programming for Critical Bilingual Development (3)
DLE 601 Language Policies and Practices (3)
DLE 650 Curriculum Development for Urban School Communities (3)
Specialization: Select 12 units from the following with consent of adviser.
DLE 553 Language Assessment and Evaluation in Multicultural Settings (3)
DLE 596 Special Topics in Bilingual and Multicultural Education (1-3)
DLE 603 Community and Schools in a Diverse Society (3)
DLE 604* Learning and Teaching Language in a Dual Language Setting (3)
DLE 651 Curriculum, Teaching, and Assessment: ELD and SDAIE (1-3)
DLE 652 Literacy and Language: Critically Examining Curriculum for Teaching and Learning (3)
DLE 653 Language Development in K-12 Multilingual Classrooms (3)
DLE 686 Seminar in Multicultural Education (1-6)
DLE 798 Special Study (1-6) Cr/NC/RP

* Bilingual authorization credential or score of 3 on SDSU Spanish examination is a prerequisite for course.

Option 2: Outside Specialization
(Major Code: 08994) (SIMS Code: 331960)
Core:
DLE 600A Foundations of Democratic Schooling (3) or
DLE 600B Foundations of Dual Language Programming for Critical Bilingual Development (3)
DLE 601 Language Policies and Practices (3)
DLE 650 Curriculum Development for Urban School Communities (3)
Specialization: Nine to 12 units taken outside the Department of Dual Language and English Learner Education with consent of graduate adviser, and a cooperating department or program.

Educational Leadership:
Specialization in Postsecondary Education
(Major Code: 08271) (SIMS Code: 331911)
The Master of Arts degree in education with a concentration in educational leadership and a specialization in educational leadership is intended for students pursuing leadership positions in postsecondary education, foreign school administrators, student services professionals, or those who have other administrative objectives in educational fields.

To apply for this concentration with a specialization in student affairs in postsecondary education, a student must complete an application for admission to both the university and the student affairs postsecondary education program. All applications should include at least two letters of recommendation. Upon admission to the university and the department, all students will discuss the degree curriculum with the graduate adviser during the first semester in the program. Only students who show reasonable promise of success in student affairs leadership positions will be admitted to this program. In order to continue in the program, the student must demonstrate ongoing academic, professional, and personal growth.

Specific Requirements for the Master of Arts degree in Education with a Concentration in Educational Leadership and a Specialization in Postsecondary Education.
A minimum of 30 units to include:
1. Core program:
   ARP 610 Educational Leadership (3)
   ARP 747 Educational Leadership in a Diverse Society (3)
2. Six to nine units selected, with the approval of the graduate adviser, from the following:
   ARP 611 Program Development and Evaluation in Postsecondary Education (3)
   ARP 631 Seminar in Teaching in Postsecondary Education (3)
   ARP 680 Seminar in Administration, Rehabilitation and Postsecondary Education (2-6)
   ARP 720 Human Resource Development in Postsecondary Education (3)
   ARP 730 Seminar in Adult Learning (3)
   ARP 740 Advanced Seminar in Administration, Rehabilitation, and Postsecondary Education (3)
   ARP 755 Governance and Policy Development in Postsecondary Learning Organizations (3)
3. Electives selected with the approval of the graduate adviser (6-9 units).
4. ED 690 Methods of Inquiry (3)
5. Research: Three to six units selected from the following:
   ED 791A Evaluation Techniques (3)
   ED 791B Practicum: Evaluation (1-3) or
   ED 795A-795B Seminar (3-3) or
   ED 799A Thesis (3) Cr/NC/RP

Educational Leadership: Specialization in Student Affairs in Postsecondary Education
(Major Code: 08271) (SIMS Code: 331913)
The Master of Arts degree in education with a concentration in educational leadership and a specialization in student affairs in postsecondary education is intended for students pursuing positions in postsecondary education, student services professionals, or those who have other administrative objectives in educational fields.

To apply for this concentration with a specialization in student affairs in postsecondary education, a student must complete an application for admission to both the university and the student affairs postsecondary education program. All applications should include at least two letters of recommendation. Upon admission to the university and the department, all students will discuss the degree curriculum with the graduate adviser during the first semester in the program. Only students who show reasonable promise of success in student affairs leadership positions will be admitted to this program. In order to continue in the program, the student must demonstrate ongoing academic, professional, and personal growth.

Specific Requirements for the Master of Arts degree in Education with a Concentration in Educational Leadership and a Specialization in Student Affairs Postsecondary Education.
A minimum of 30 units to include:
1. Core program:
   ARP 610 Educational Leadership (3)
   ARP 747 Educational Leadership in a Diverse Society (3)
2. Nine to 12 units selected, with the approval of the graduate adviser, from the following:
   ARP 621 Theoretical Foundations of Student Affairs (3)
   ARP 622 Communication and Group Process in Student Affairs Leadership (3)
   ARP 623 Seminar in Critical Leadership Issues in Student Affairs (3)
   ARP 680 Seminar in Administration, Rehabilitation and Postsecondary Education (2-6)
   ARP 730 Seminar in Adult Learning (3)
   ARP 740 Advanced Seminar in Administration, Rehabilitation and Postsecondary Education (3)
   ARP 747 Educational Leadership in a Diverse Society (3)
   ARP 760 Internship in Postsecondary Educational Leadership (1-6) Cr/NC/RP
3. ED 690 Methods of Inquiry (3)
4. Research: Three to six units selected from the following:
   ED 791A Evaluation Techniques (3)
   ED 791B Practicum: Evaluation (1-3) or
   ED 795A-795B Seminar (3-3) or
   ED 799A Thesis (3) Cr/NC/RP
Educational Leadership: Specialization in PreK-12
(Major Code: 08271) (SIMS Code: 331912)

The Master of Arts degree in education with a concentration in educational leadership and a specialization in PreK-12 is intended for students pursuing administrative posts in PreK-12 educational organizations, including school business managers. Students who intend to pursue administrative careers in California public schools, grades PreK-12, need to obtain the Preliminary Administrative Services Credential and then the Professional Administrative Services Credential. Students in the PreK-12 specialization may earn a degree without earning a California Preliminary Services Credential or in combination with the credential.

To apply for admission into the PreK-12 specialization, a student must complete an application for admission to both the university and the Department of Educational Leadership. All applications should include two letters of recommendation from two supervisory administrators. Upon admission to the university and the program, all students will discuss the degree curriculum with the graduate adviser during the first semester in the program.

Specific Requirements for the Master of Arts degree in Education with a Concentration in Educational Leadership and a Specialization in PreK-12 Educational Leadership.

A minimum of 30 units to include:

1. Core program: Six units.
   - EDL 600 Organizational and Systems Leadership (3)
   - EDL 610 Visionary Leadership (3)

2. Six to nine units selected, with the approval of the graduate adviser, from the following:
   - EDL 630 School Improvement Leadership (3)
   - EDL 650 Professional Learning and Growth Leadership (3)
   - EDL 652 Seminar in Instructional Leadership (3)
   - EDL 655 Communication, Problem Solving, and Decision Making in PK-12 (3)
   - EDL 680 Seminar in PreK-12 Educational Administration (2-6) Cr/NC

3. Electives selected with the approval of the graduate adviser (6-9 units).

4. ED 690 Methods of Inquiry (3)

5. Research: Three to six units selected from the following:
   - ED 791A Evaluation Techniques (3)
   - ED 791B Practicum: Evaluation (1-3) or ED 795A-795B Seminar (3-3) or ED 799A Thesis (3) Cr/NC/RP

Specific Requirements for the Preliminary Administrative Services Credential: (Credential Code: 00502)

Candidates pursuing the Professional Administrative Services Credential must be in a credentialed administrative position. The candidate must complete the credential program within five years of initial appointment to an administrative position.

The following are required for admission to the Professional Administrative Services Credential program:

1. An application for admission to the program.
2. Admission to Ed.D. in Educational Leadership, Concentration in PreK-12 School Leadership at San Diego State University.
3. Possession of a valid Preliminary Administrative Services Credential or a Clear Administrative Services Credential.
4. Possession of a master’s degree in Educational Leadership or another field related to educational practice.
5. Two letters of recommendation from knowledgeable field references.
6. A letter of formal commitment of participating school district to support field experience requirement.
7. Minimum grade point average of 3.0 in graduate study.
8. A selection interview with program area faculty members.

Program

The program requirements for the Professional Administrative Services Credential are:

- EDL 680 Seminar in PreK-12 Educational Administration: Leadership Development (Cr/NC)............2
- EDL 760 Practicum in PreK-12 Educational Organizations (Cr/NC/RP)........................................3

Electives selected with approval of adviser from Ed.D. in Educational Leadership, Concentration in PreK-12 School Leadership..............................................................0-6

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.

Elementary Curriculum and Instruction
(Major Code: 08021) (SIMS Code: 331946)

No new students are being admitted to this program until further notice.

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), preferably holds a credential from California or certified to teach in another state. Coursework to include curriculum and methods, growth and development, educational psychology, and history and philosophy of education.

2. Education 690, Methods of Inquiry (3 units).
Education

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); or related course with approval of adviser.
   b. Teacher Education 626, Advanced Educational Psychology; or Teacher Education 655, Sociocultural Foundations of American Education; or related course with approval of adviser.
   c. Teacher Education 610C, Seminar in Science in Elementary Education; or Teacher Education 630, Seminar in Literacy and Language Arts; or Teacher Education 631, Seminar in Language Arts; or related course 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 teacher education or related fields selected with the approval of the adviser (up to 6 units).

4. Electives (6-9 units) selected with the approval of the adviser.
5. Special Study and Research (3-6 units): Education 791A-791B Evaluation (3-1 units); or Education 795A-795B, Seminar (3-3 units); or Education 799A, Thesis (3 units) Cr/NC/RP.

The program of study must include at least 15 units of 600- and 700-level courses.

Mathematics Education (K-8)
(Major Code: 17012) (SIMS Code: 331947)

The Master of Arts degree in education with a concentration in Elementary Curriculum and Instruction is also offered at the Imperial Valley Campus.

For course requirements consult the Imperial Valley Campus Bulletin.

The Master of Arts degree in Education with a concentration in K-8 mathematics education is designed to provide teachers a deeper understanding of issues in learning and teaching mathematics in grades K-8, and increased knowledge of current trends, research, and assessment in mathematics education. Students can expect to acquire new perspectives and skills about mathematics teaching, specialized knowledge of children's mathematical understanding, and preparation for leadership among teachers in mathematics teaching.

1. Prerequisites: Applicant must have at least one year of teaching experience or consent of program coordinator, and must file an application for admission to both the university and the K-8 mathematics education program. Successful applicants must demonstrate personal, professional, and academic potential for success in the program. For specific admission criteria see the K-8 Mathematics Education Master of Arts program website at http://coe.sdsu.edu/departments/MathEd/master.htm.

2. Core Program (12 units):
   MTHED 600 Teaching and Learning Mathematics in Early Grades (Pre-K to 4) (3)
   MTHED 601 Teaching and Learning Mathematics in the Middle Grades (3)
   MTHED 603 Seminar on Learning Theories in Mathematics Education (3)
   TE 511 Assessment in Mathematics Education (3)

3. Electives (9 units): With the approval of the adviser, select three courses from the following:
   MTHED 604 Seminar on Teaching Issues in Mathematics (3)
   MTHED 605 Algebra in the 7-14 Curriculum (3)
   MTHED 606 Selected topics in 7-14 Mathematics Curriculum (3)

4. Research (9 units):
   ED 690 Methods of Inquiry (3)
   ED 795A Seminar (3)
   ED 795B Seminar (3)

Reading Education
(Major Code: 08301) (SIMS Code: 331964)

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 and literacy leadership 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 and Literacy Leadership Specialist Credential, which has a number of common requirements.

1. Prerequisites: A valid California teaching credential, grades K-12, or completion of a minimum of 12 units of professional coursework in education, to include a basic course in methods and materials for teaching reading.

2. Core program (31 units)
   ED 690 Methods of Inquiry (3)
   TE 530 Children's / Adolescents' Literature (3)
   TE 631 Seminar in Language Arts (3)
   TE 633 Leadership in Literacy Education (3)
   TE 635 Assessment of Reading and Language Arts (3)
   TE 637 Instructional Strategies for Reading and Language Arts (4)
   TE 639 Literacy and Language (3)
   TE 677 Research-Based Pedagogy for Diverse Learners (3)
   TE 640 Planning for Teaching and Assessment in Writing (3)

3. Electives (9 units)
   ED 795A-795B Seminar (3-3 units) or
   ED 799A Thesis (3) Cr/NC/RP and Electives (3)

Secondary Curriculum and Instruction
(Major Code: 08031) (SIMS Code: 331973)

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), preferably holds a credential from California or certified to teach in another state. The School of Teacher Education will consider a letter of petition from individuals without professional units or a California teaching credential with equivalent experience related to the field of education.

2. ED 690 Methods of Inquiry (3 units)

3. Core program (6 units): to include TE 600, Curriculum Development in Education (3 units); three units from TE 655, Sociocultural Foundations of American Education; or related courses with approval of adviser.
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) and ED 791B Practicum: Evaluation (1-3) or ED 795A*-795B* Seminar (3-3 units) or ED 799A Thesis (3 units) Cr/NC/RP and Electives (3 units)

The Master of Arts degree in Education with a concentration in Secondary Curriculum and Instruction is also offered at the Imperial Valley Campus. For course requirements consult the Imperial Valley Campus Bulletin.

Special Education
(Major Code: 08081) (SIMS Code: 331982)

The Master of Arts degree in education in special education provides the professional educator with advanced knowledge and skills in special education. This degree has many requirements in common with the Clear Professional Induction Specialist Credentials in Special Education and may be earned concurrently with those credentials. The M.A. degree can include specializations in the following areas: autism, early childhood, developing gifted potential, mild/moderate disabilities, moderate/severe disabilities, and vocational transition. All programs must be approved by the graduate adviser. Although the M.A. degree is usually linked to a teacher credential, it is open to individuals with undergraduate degrees in a wide range of disciplines in consultation with the graduate adviser.

Specialization in Autism
(Major Code: 08081) (SIMS Code: 331994)

Prerequisites: Special Education 527 or Basic California Teaching Credential with EEL endorsement/CLAD credential and Special Education 553.

Core (12 units): Education 690* and nine units selected from approved coursework in specialization area.

Advanced Specialization (10-13 units): Special Education 676, 681B, and seven units of electives selected with approval of adviser.

Culminating Experience (6 units): Education 795A*-795B*.

Specialization in Developing Gifted Potential
(Major Code: 08081) (SIMS Code: 331991)

Core (15 units): Special Education 644, 771, and nine units selected with approval of adviser.

Related Fields (6-9 units 500-level or above) by advisement or Advanced Specialization (6 units): Special Education 650 and three units of electives selected with approval of adviser.

Research (6-9 units): Education 690* and Education 791A, 791B, or 795A*-795B* or 799A.

Specialization in Early Childhood
(Major Code: 08081) (SIMS Code: 331983)

Prerequisites: Special Education 500, 527 or Basic California Teaching Credential with EEL endorsement/CLAD credential, Special Education 528; or Special Education 527 and Preliminary or Professional California credential in Early Childhood Special Education.

Core (12 units): Special Education 651, Education 690*, and six units selected from approved coursework in specialization area.

Advanced Specialization: Special Education 681B and 9-12 units selected from approved electives at 500-level or above.

Culminating Experience (3-6 units): Education 795A*-795B* or Education 791A, 791B or Education 799A.

Specialization in Mild/Moderate Disabilities
(Major Code: 08081) (SIMS Code: 331992)

Prerequisites: Special Education 500, 524, 527 or Basic California Teaching Credential with EEL endorsement/CLAD credential; or Special Education 527 and Preliminary or Professional California credential in Mild/Moderate Disabilities.

Core (12 units): Special Education 651, Education 690*, and six units selected from approved coursework in specialization area.

Advanced Specialization: Special Education 681B and 9-12 units selected from approved electives at 500-level or above.

Culminating Experience (3-6 units): Education 795A*-795B* or Education 791A, 791B or Education 799A.

Specialization in Moderate/Severe Disabilities
(Major Code: 08081) (SIMS Code: 331993)

Prerequisites: Special Education 500, 525, 527 or Basic California Teaching Credential with EEL endorsement/CLAD credential; or Special Education 527 and Preliminary or Professional California credential in Moderate/Severe Disabilities.

Core (12 units): Special Education 651, Education 690*, and six units selected from approved coursework in specialization area.

Advanced Specialization: Special Education 681B and 9-12 units selected from approved electives at 500-level or above.

Culminating Experience (3-6 units): Education 795A*-795B* or Education 791A, 791B or Education 799A* in departmentally approved sections.

Specialization in Vocational Transition
(Major Code: 08081) (SIMS Code: 331990)

Prerequisites: Special Education 501 or Administration, Rehabilitation and Postsecondary Education 684.

Core (15-18 units): Education 690*, 6-9 units selected from (a) Special Education 524 or 525; (b) Special Education 645 or 646; (c) Special Education 771 or Administration, Rehabilitation and Postsecondary Education 744 or Counseling and School Psychology 730, Education 690*.

Advanced Specialization: Special Education 681A or 681B, and 6-9 units selected from approved coursework in Special Education or Administration, Rehabilitation and Postsecondary Education.

Culminating Experience (3-6 units): Education 795A*-795B* or Education 791A, 791B or Education 799A.

*In departmentally approved sections.

Master of Arts in Teaching Degree

Admission to the Degree Curriculum

Applicants must satisfy the general requirements for admission to the university with classified graduate standing, as described in Part Two of this bulletin. An applicant may apply six units of adviser approved post-baccalaureate teacher credential work from an accredited institution to the Master of Arts in Teaching (MAT) degree. Teachers wishing to participate in this program who have not completed a post-baccalaureate teaching credential from an accredited institution may still apply to the program by providing evidence of a valid teaching credential from an accredited institution, in addition to fulfilling the other admission requirements, and taking six additional units of adviser-approved post-baccalaureate MAT coursework. It is recommended that the coursework for the MAT begin within five years of completion of the basic teacher credential program. In order to be awarded credit of a maximum of six post-baccalaureate credential units in the MAT, these units, along with the course of study units, cannot be more than seven years old at the time of completion of the MAT.

Advancement to Candidacy

A student desiring a Master of Arts in Teaching degree may be advanced to candidacy upon completion of 15 units to include a minimum of six core units and six units from the area of concentration.

Specific Requirements for the Master of Arts in Teaching Degree
(Major Code: 08292)

All candidates for the MAT will be required to take a comprehensive examination. This written examination is designed to evaluate achievement in the specific area of the student's concentration. A student is eligible to take the comprehensive examination only after advancement to candidacy. The examination will be offered near the mid point of each semester and near the end of the summer. A reservation must be made at least one week in advance of the examination.

Master of Arts in Teaching Degree

The Master of Arts in Teaching (MAT) is designed to provide master's level professional development as part of a teacher development continuum for K-12 teachers. The goal is to increase teachers' expertise in curriculum and instruction in order to ensure learning and achievement for students from diverse populations. Up to six units from credential or other graduate program may count as electives in this...
program. The degree has six concentrations from which teachers can select, depending on their interests and educational backgrounds. The six concentrations include Elementary Education, Secondary Education, Reading Education, Mathematics Education, Science Education, and Language Arts Education (summer only). Students select courses in collaboration with the graduate adviser.

1. Prerequisite: A basic teaching credential to include curriculum and methods, child and adolescent growth and development, educational psychology, and history and philosophy of education.

2. Core courses (9 units): The core is comprised of three 3-unit courses, one selected from each area.
   - **Area 1: Advanced Learning Theory and Applications to the Classroom**
     - TE 600 Curriculum Development in Education (3)
     - TE 626 Advanced Educational Psychology (3)
   - **Area 2: Measurement and Assessment**
     - TE 693 Measuring and Assessing Student Achievement in Schools (3)
     - DLE 553 Language Assessment and Evaluation in Multicultural Settings (3)
   - **Area 3: Socio-Cultural Foundations**
     - TE 655 Sociocultural Foundations of American Education (3)
     - TE 677 Research-Based Pedagogy for Diverse Learners (3)
   - **DLE 600A Foundations of Democratic Schooling (3)**

3. Electives (6 units): Students will take two courses at the 500-, 600-, 700-, and 900-level with approval of the graduate adviser.

**Master of Arts in Teaching (MAT) Concentrations**

**Elementary Education (15 units)**

- **Area 1:**
  - TE 530 Children's/Adolescents' Literature (3)
  - TE 600 Curriculum Development in Education (3)
  - TE 610C Seminar in Science in Elementary Education (3)
  - TE 626 Advanced Educational Psychology (3)
  - TE 630 Seminar in Literacy and Language Arts (3)
  - TE 640 Planning for Teaching and Assessment in Writing (3)
  - **TE 652 Change in Education (3)**
  - **TE 655 Sociocultural Foundations of American Education (2-3)**
  - **TE 677 Research-Based Pedagogy for Diverse Learners (3)**
  - **TE 693 Measuring and Assessing Student Achievement in Schools (3)**
  - **TE 709 Inclusive Education (3)**
  - **TE 779 Action Research in Learning Environments (3)**

**Secondary Education (15 units)**

- **Area 1:**
  - TE 600 Curriculum Development in Education (3)
  - TE 626 Advanced Educational Psychology (3)
  - TE 640 Planning for Teaching and Assessment in Writing (3)
  - **TE 652 Change in Education (3)**
  - **TE 655 Sociocultural Foundations of American Education (2-3)**
  - **TE 677 Research-Based Pedagogy for Diverse Learners (3)**
  - **TE 693 Measuring and Assessing Student Achievement in Schools (3)**
  - **TE 709 Inclusive Education (3)**

**Reading Education (15 units)**

- **Area 1:**
  - TE 530 Children's/Adolescents' Literature (3)
  - TE 635 Assessment in Teacher Education and Language Arts (3)
  - TE 639 Literacy and Language (3)
  - **TE 779 Action Research in Learning Environments (3)**

**Mathematics Education (15 units)**

- **Area 1:**
  - TE 511 Assessment in Mathematics Education (3), or another 500-, 600-, 700-level course with approval of graduate adviser (3 units)
  - **TE 779 Action Research in Learning Environments (3)**
  - **MTHED 600 Teaching and Learning Mathematics in the Middle Grades (Pre-K to 4) (3)**
  - **MTHED 601 Teaching and Learning Mathematics in the Middle Grades (3)**
  - **MTHED 603 Seminar on Learning Theories in Mathematics Education (3)**

**Science Education (15 units)**

- **Area 1:**
  - TE 610C Seminar in Science in Elementary Education (3)
  - **TE 679 Action Research in Learning Environments (3)**
  - **N SCI 596 Special Topics in Natural Science (3), or another 500-, 600-, 700-level course with approval of graduate adviser (3 units)**

**Language Arts Education (Summer Only) (15 units)**

- **Area 1:**
  - **TE 530 Children's/Adolescents' Literature (3)**
  - **TE 630 Seminar in Literacy and Language Arts (3)**
  - **TE 638 Topics in Reading Education (6)**

**Master of Science Degree in Child Development**

**General Information**

The Department of Child and Family Development (CFD) offers interdisciplinary graduate study leading to the Master of Science degree in child development. Graduate teaching assistantships and graduate assistantships in child development may be available to a limited number of qualified students.

The Master of Science degree in child development is one of only four child development programs available in the CSU. With 101 community college child development programs in California and 17 undergraduate programs within the CSU system, the M.S. program in child development plays a major role in training professionals for the State and region. The Department of Child and Family Development plays a leadership role in integration of curricula for community colleges and the CSU.

Child development is an interdisciplinary area of study. The Master of Science degree, administered by the faculty from the Department of Child and Family Development, draws on the expertise of a multidisciplinary faculty who are committed to the study of children within the context of diverse families and communities. The focus of the department is on the study of social emotional development as the underlying foundation for all other areas of development including physical, cognitive, motor and language. The program represents an interdisciplinary field of study with
a basic assumption that development takes place across the lifespan in the context of the family, community, and public policy. The department’s emphasis on primary prevention prepares students with hands-on experiences through community-based learning.

The focus of the program is on the early years and prevention with an emphasis on parent-child intergenerational relationships to enhance school readiness and preparation of teachers to work with families with a focus on socio-emotional and behavior support in educational settings and homes. Faculty areas of study include attachment, socio-emotional development and school readiness, continuity of care, child abuse and relationship violence, intergenerational relationships, and parent education and involvement in education. Faculty work in collaboration with community agencies and programs to include but are not limited to: SDSU Children’s Center, Head Start, First 5, San Diego Unified School District, San Diego County Office of Education, San Diego County Health and Human Services—Office of Violence Prevention, San Diego County Health and Human Services Child and Adolescent Services, Children Mental Health Services, YMCA, Exceptional Family Resource Center, Home Start, among others. Students can choose a research project or thesis. In addition to the thesis, there are projects on agencies and programs in the community. Students will have the opportunity to develop projects in the community and implement best practices of continuity of care, intergenerational programs, etc.

Graduates with the Master of Science degree qualify for administrator, coordinator, or service provider positions in preschools, day care centers, schools, hospitals, hospice centers, public welfare agencies, family service agencies, family planning clinics, community programs, business and industry, and government agencies. Graduates with an advanced certificate offered by the Department of Child and Family Development also qualify for positions related to early childhood mental health and behavioral health. Graduates from the Master of Science degree program also qualify as community college instructors and can continue their education for the doctoral degree in human development or a related field.

Specific Requirements for the Master of Science Degree in Child Development
(Major Code: 08231) (SIMS Code: 330909)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master’s degree as described in Part Four of this bulletin, students must complete a graduate program of 30-32 units, to include at least 18 units of 600- and 700-numbered courses.

Students pursuing the Master of Science degree in child development may select Plan A (thesis/project) or Plan B (comprehensive examination) and must complete the following:

1. Plan A core sequence: Child and Family Development 634A, 660A, 670B, 790, and Education 690 (15-16 units);
2. Plan B core sequence: Child and Family Development 634A, 660A, 670B, and Education 690 (12-13 units);
3. Electives: Remaining units will consist of 500-, 600-, and 700-level child and family development courses. (Graduate students may also use 500-, 600-, and 700-level courses from related disciplines with approval of the graduate adviser).
4. Capstone: Upon completion of sections 1 or 2 and 3, students selecting Plan A enroll in Child and Family Development 799A. Students selecting Plan B enroll in Child and Family Development 799C.

NOTE: Students who completed the advanced certificate offered by the Department of Child and Family Development will have earned 12 units towards the Master of Science degree in child development. Students who select Plan A and who have completed the advanced certificate offered by the Department of Child and Family Development must complete 20 additional units to include Child and Family Development 634A, 660A, 790, 799A, and Education 690. Students who select Plan B and have completed the advanced certificate offered by the Department of Child and Family Development must complete 20 additional units to include Child and Family Development 634A, 660A, and Education 690.

Concentration in Early Childhood Mental Health
(Major Code: 08231) (SIMS Code: 330809)

The Master of Science degree in child development with a concentration in early childhood mental health is designed to prepare students who wish to pursue California LPCC licensure. Students must complete, in consultation with an adviser, an official program of study that includes 60 units of 500-, 600-, and 700-numbered required and elective courses (up to 15 units can be taken from 500-level courses with the approval of the adviser). The 60 units program of study is aligned with the state licensure requirements that include 13 core content areas (38 units), advanced coursework (15 units), and 280 hours of supervised clinical experience (6 units). Students must maintain a B average throughout the program and pass relevant qualifying/clinical examination to complete the Master of Science degree.

To qualify for admission to the graduate program in child development, the student must have:
1. A bachelor’s degree in child development or related fields or consent of the Child Development Faculty Governing Board.
2. Completion of prerequisites for the program of study. If students’ undergraduate preparation is deemed insufficient, students will be required to complete specified courses (Child and Family Development 375A, 375B, 375C, and two units from Child and Family Development 670A, 670B, 378C, 378D) in addition to the minimum 30-32 units required for the master’s degree in child development.
3. A grade point average of 3.0 in the last 60 semester units attempted.
4. Completion of the GRE General Test.
5. Completion of program application form.

Admission to the Degree Curriculum

Students will be admitted to the graduate program in child development only after careful consideration of their qualification by the child development faculty. All students must satisfy the general requirements for admission to the university with graduate standing as described in Part Two of this bulletin. Students who do not fully meet the requirements for admission with classified graduate standing may be considered for conditionally classified graduate standing upon recommendation of the admissions committee and the graduate adviser. In addition, a student applying for admission to the graduate program in child development, including those who hold an advanced certificate offered by the Department of Child and Family Development must meet the following requirements.

To qualify for admission to the master’s degree program in child development, the student must have:
1. A bachelor’s degree in child development or related fields or consent of the Child Development Faculty Governing Board.
2. Completion of prerequisites for the program of study. If students’ undergraduate preparation is deemed insufficient, students will be required to complete specified courses (Child and Family Development 375A, 375B, 375C, and two units from Child and Family Development 670A, 670B, 378C, 378D) in addition to the minimum 30-32 units required for the master’s degree in child development.
3. A grade point average of 3.0 in the last 60 semester units attempted.
4. Completion of the GRE General Test.
5. Completion of program application form.
6. A minimum GPA of 3.0 in the last 60 units attempted at the undergraduate level.
7. A minimum GPA of 3.0 in the last 60 units attempted at the graduate level if previously enrolled in a graduate program.
8. Demonstrated professional standing and the basic requirements for the master’s degree as described in Part Four of this bulletin, students must complete a graduate program of 30-32 units, to include at least 18 units of 600- and 700-numbered courses.
9. Students pursuing the Master of Science degree in child development may select Plan A (thesis/project) or Plan B (comprehensive examination) and must complete the following:
10. Plan A core sequence: Child and Family Development 634A, 660A, 670B, 790, and Education 690 (15-16 units);
11. Plan B core sequence: Child and Family Development 634A, 660A, 670B, and Education 690 (12-13 units);
12. Electives: Remaining units will consist of 500-, 600-, and 700-level child and family development courses. (Graduate students may also use 500-, 600-, and 700-level courses from related disciplines with approval of the graduate adviser).
13. Capstone: Upon completion of sections 1 or 2 and 3, students selecting Plan A enroll in Child and Family Development 799A. Students selecting Plan B enroll in Child and Family Development 799C.

NOTE: Students who completed the advanced certificate offered by the Department of Child and Family Development will have earned 12 units towards the Master of Science degree in child development. Students who select Plan A and who have completed the advanced certificate offered by the Department of Child and Family Development must complete 20 additional units to include Child and Family Development 634A, 660A, 790, 799A, and Education 690. Students who select Plan B and have completed the advanced certificate offered by the Department of Child and Family Development must complete 20 additional units to include Child and Family Development 634A, 660A, and Education 690.

Concentration in Early Childhood Mental Health
(Major Code: 08231) (SIMS Code: 330809)

The Master of Science degree in child development with a concentration in early childhood mental health is designed to prepare students who wish to pursue California LPCC licensure. Students must complete, in consultation with an adviser, an official program of study that includes 60 units of 500-, 600-, and 700-numbered required and elective courses (up to 15 units can be taken from 500-level courses with the approval of the adviser). The 60 units program of study is aligned with the state licensure requirements that include 13 core content areas (38 units), advanced coursework (15 units), and 280 hours of supervised clinical experience (6 units). Students must maintain a B average throughout the program and pass relevant qualifying/clinical examination to complete the Master of Science degree.

To qualify for admission to the graduate program in child development, the student must have:
1. Counseling and Psychotherapeutic Theories and Techniques
   CFD 634B Seminar in Counseling Theories and Techniques (3)
2. Human Growth and Development Across the Lifespan
   CFD 670B Seminar in Human Development Theories-Intervention and Prevention Lifespan Approach (3)
3. Career Development Theories and Techniques
   CFD 660A Seminar in Early Childhood Mental Health Career Development (3)
4. Group Counseling Theories and Techniques
   CSP 670 Theory and Process of Group Counseling (3)
Education

5. Assessment, Appraisal, and Testing
   CSP 623  Ecobehavioral Assessment – Intervention (3)

6. Multicultural Counseling Theories and Techniques
   CSP 615  Seminar in Multicultural Dimensions in Counseling (3)

7. Principles of Diagnosis, Treatment Planning, Prevention of Mental and Emotional Disorders, and Dysfunctional Behavior
   CSP 618  Mental Health Recovery and the DSM: A Social Justice Perspective (3)

OR
   SWORK 720 Seminar in Selected Topics in Human Behavior and Social Environment (3)

8. Research and Evaluation
   ED 690  Methods of Inquiry (3)

9. Professional Orientation, Ethics and Law in Counseling, California Law and Professional Ethics
   CFD 660B  Seminar in Professional Law and Ethics in Counseling (3)

10. Psychopharmacology (includes biological bases of behavior)
    CSP 694  Psychopharmacology for Marriage and Family Therapists and Counseling (3)

11. Addictions Counseling (substance abuse, co-occurring disorders)
    CSP 687  Family and Systemic Treatment of Substance Abuse (3)

OR
    SWORK 758 Seminar in Social Work and Selected Fields of Practice* (3)

12. Crisis/Trauma Counseling (multidisciplinary responses to crises, emergencies or disasters)
    CSP 650  Trauma and Crisis Counseling in Multicultural Community Context (3)

13. Advanced Counseling and Psychotherapeutic Theories and Techniques
    CFD 634A  Seminar in Family Therapy Theory and Techniques (3)

14. Advanced Coursework
    In accordance with licensing requirements (4999.33 section 2), students are required to take 15 units of advanced coursework to develop knowledge of specific treatment issues and/or populations. The advanced coursework will focus on early childhood mental health in alignment with the concentration of this degree. The student may take courses not listed below upon approved by the student’s program adviser.
    CFD 537  Child Abuse and Family Violence (3)
    CFD 595  Early Childhood Mental Health: Theory and Practice (3)
    CFD 670A  Seminar in Human Development Theories-Attachment and Affect Regulation in Young Children (3)
    CFD 671B  Seminar in Supporting Early Childhood Mental Health-Counseling and Psychotherapeutic Techniques and Theories (3)
    CSP 635  Sexuality and Intimacy in Couple and Family Therapy and Counseling (1-2)

15. Supervised Clinical Experience
    To comply with LPCC requirements students must complete at least 6 semester units of supervised practicum to obtain the required 280 hours of supervised experience for licensure:
    CFD 792  Advanced Clinical Experience and Group Supervision (6) Cr/NC

    Students must purchase professional liability insurance in order to participate in the clinical experience component of the program. A background check, fingerprint clearance, and proof of negative TB test.

Post-Graduation Licensure Requirements

Upon completion of the degree, students may register as Professional Clinical Counselor Intern to complete required post-degree supervised clinical hours for licensure. Interns must complete 3,000 hours supervised experience over a period of no less than two years, including not less than 1,750 hours of direct counseling with individuals or groups in a clinical mental health counseling setting, and 150 hours in a hospital or community mental health setting.

Examination: Passing score on the National Clinical Mental Health Counselor Examination (NCMHCE), recently adopted as the licensure examination for California LPCCs, and the Jurisprudence and Ethics Examination. Both examinations will be administered by the California Board of Behavioral Sciences.

Master of Science Degree in Counseling

General Information

The Master of Science degree in counseling provides an integrated sequence of study in the theories, research, and practice of counseling. The degree preparation offers a core of competencies and experiences with specialized study and experiences provided via defined concentrations in marriage and family therapy, multicultural community counseling community-based block, or school counseling.

Applications interested in the school psychology program should refer to the section on the Ed.S. degree in school psychology.

Course offerings are organized by professional concentration. The majority are sequenced in year-long blocks. Most students attend full time (a minimum of nine units per semester), although limited part-time study is offered.

The following departmental courses may be open to students who have not been accepted into a program and are interested in exploring departmental offerings: Counseling and School Psychology 300, 400, 401, 420, 450, and 460. See the department website at http://edweb.sdsu.edu/cspi.

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 Office of Financial Aid and Scholarships. The department offers the Gertrude Bell scholarship to one first year student accepted to one of the four programs. Other forms of financial assistance administered by the university are presented elsewhere in this bulletin.

Admission to the Degree Curriculum

Applications for the M.S. in counseling with a concentration in marriage and family therapy, multicultural community counseling community-based block, or school counseling are considered only one program. Applications are accepted between October 1 and December 15. We urge you to apply early. For detailed instructions on application procedures, applicants should consult the website http://edweb.sdsu.edu/cspi or contact the program director through the Department of Counseling and School Psychology, College of Education, San Diego State University, 5500 Campanile Drive, San Diego, CA 92182-1179.

Applicants must submit separate applications to the university Graduate Admissions and to the program. Applicants receive separate notifications of application status for each application. No minimum set of qualifications in any way guarantees admission. Admission to the university does not guarantee recommendation for admission from the program. The program admissions committee makes the recommendations for admission to the department faculty and chair who makes the final recommendation to the university Graduate Admissions. Submitted application materials may not be returned or forwarded to other academic units.

The admissions process for each program is comprised of (1) a review of written application materials that include a program application, academic transcripts, GRE scores, personal statements, three letters of recommendation, a curriculum vitae or resume, and CBEST scores (for school counseling only) and (2) a group interview process that includes a variety of small and large group interactive experiences. Assessment for admission is based on four categories of readiness: academic, cross-cultural, interpersonal, and professional.

Applicants who wish to apply to more than one concentration (program) must apply separately to each program. They will be considered through the program’s specific admissions review process. Applicants accepted to more than one program may not simultaneously enroll in marriage and family therapy, multicultural community counseling community-based block, or school counseling.
Advancement to Candidacy

All students must meet the general requirements for advancement to candidacy, as described in Part Four of this bulletin and be recommended by the faculty. A student may be advanced to candidacy when the official program for the Master of Science degree 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.

Specific Requirements for the Master of Science Degree in Counseling

(Major Code: 08261) (SIMS Code: 331001)

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 Four 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 B 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. 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 concurrently with or following enrollments in Counseling and School Psychology 710A or 710B. The examination is offered near the end of each semester. Information is available from the Counseling and School Psychology office, the student's adviser, and the department website, or the counseling materials.

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 concentrations and must be reviewed with the adviser. The student must complete a minimum of 60 units of 500-, 600-, and 700-numbered courses, including:

1. Common Core (6 units):
   - ED 690 Methods of Inquiry (3)
   - CSP 600 Cross-Cultural Counseling Communication Skills (2)
   - CSP 600L Cross-Cultural Counseling Prepracticum (1) Cr/NC

2. Foundations (a minimum of 9 units):
   - CSP 601 Theoretical Foundations of Counseling and Marriage and Family Therapy (3)
   - CSP 610B Determinants of Human Behavior: Social and Cultural (1-3)
   - CSP 610C Determinants of Human Behavior: Development (1-3)
   - CSP 610D Determinants of Human Behavior: School Learning (1-3)
   - CSP 610E Determinants of Human Behavior: Biological (1-3)
   - CSP 615 Seminar in Multicultural Dimensions in Counseling (3)

3. Theory, Research, and Techniques (a minimum of 12 units):
   - CSP 622A Ecosystems Assessment – Intervention I: Students (3)
   - CSP 622B Ecosystems Assessment – Intervention II: Schools (3)
   - CSP 623 Ecobehavioral Assessment – Intervention (3)
   - CSP 625 Marriage and Family Therapy Theories and Best Practices I (3)
   - CSP 640 Testing and Assessment for Marriage and Family Therapists (2)
   - CSP 662A Counseling Interventions with Children and Adolescents: Marriage and Family Therapy (3) OR
   - CSP 662B Counseling Interventions with Children and Adolescents: School Counseling and School Psychology (3)
   - CSP 670 Theory and Process of Group Counseling (2)
   - CSP 680 Theory and Process of Consultation (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 (1-6) Cr/NC
   - CSP 755 Practicum I: Marriage and Family Therapy (3) Cr/NC
   - CSP 765 Practicum II: Marriage and Family Therapy (3) Cr/NC
   - CSP 780 Internship (2-12) Cr/NC
   - CSP 785 Marriage and Family Therapy Traineeship (1-10) Cr/NC

5. Research (a minimum of 3 units):
   - CSP 710A Professional Seminar (3) or
   - CSP 799A Thesis (3-9) Cr/NC

6. Electives: 24 units selected with adviser's approval.

Concentration in Marriage and Family Therapy

(Major Code: 08261) (SIMS Code: 331006)

The Master of Science in counseling with a concentration in marriage and family therapy is designed to prepare students for practice in the field of marriage and family therapy. The student must complete, in consultation with an adviser, an official program of study that includes a minimum of 60 units of 500-, 600-, and 700-numbered required and elective courses. To fulfill the educational requirements to qualify for California state licensure in marriage and family therapy, as published by the Board of Behavioral Sciences Laws and Regulations relating to the practice of Marriage and Family Therapy, Licensed Social Work, and Licensed Educational Psychologists, article 4980.40, students must complete an additional two to ten units, depending on the students' designed official program of study. The program is grounded in family systems theories and practice and has been awarded candidacy status accreditation by the Commission on Accreditation for Marriage and Family Therapy Education (COAMFTE).

Included within the course requirements are the clinical experiences of Practicum and Traineeship. Through the practicum and traineeship courses, students must complete a minimum of 500 direct clinical hours of experience with individuals, couples, and families. Two hundred fifty hours of experience must be relational hours with couples and families. Of the 500 clinical hours, 100 may consist of alternative relevant experience, as approved by the student's supervisor and program director. Students must have a minimum of 100 hours of supervision, consisting of both individual and group supervision. Fifty of the supervision hours must be via videotaped or audio taped supervision methods. Twenty-five of the 50 supervision hours must be specifically via live or videotaped supervision methods. All students must purchase professional liability insurance in order to participate in the clinical experience component of the program.

Admission to the program is competitive and includes both a written application and group interview. Applicants are evaluated for academic, interpersonal, multicultural, and professional readiness. In order to demonstrate academic readiness, it is preferable for students to complete courses in some or all of these subject areas: abnormal psychology, human sexuality, human development, cultural anthropology, sociology of the family, ethnic studies, and other relevant social science courses prior to applying to the program.

1. Common Core (6 units):
   - ED 690 Methods of Inquiry (3)
   - CSP 600 Cross-Cultural Counseling Communication Skills (2)
   - CSP 600L Cross-Cultural Counseling Prepracticum (1) Cr/NC

2. Foundations (8 units):
   - CSP 601 Theoretical Foundations of Counseling and Marriage and Family Therapy (3)
   - CSP 610B Determinants of Human Behavior: Social and Cultural (1-3)
   - CSP 610C Determinants of Human Behavior: Development (1-3)
   - CSP 610D Determinants of Human Behavior: School Learning (1-3)
   - CSP 610E Determinants of Human Behavior: Biological (1-3)
   - CSP 615 Seminar in Multicultural Dimensions in Counseling (3)

3. Theory, Research, and Techniques (minimum 22 units):
   - CSP 622A Ecosystems Assessment – Intervention I: Students (3)
   - CSP 622B Ecosystems Assessment – Intervention II: Schools (3)
   - CSP 623 Ecobehavioral Assessment – Intervention (3)
   - CSP 625 Marriage and Family Therapy Theories and Best Practices I (3)
   - CSP 640 Testing and Assessment for Marriage and Family Therapists (2)
   - CSP 662A Counseling Interventions with Children and Adolescents: Marriage and Family Therapy (3) OR
   - CSP 662B Counseling Interventions with Children and Adolescents: School Counseling and School Psychology (3)
   - CSP 670 Theory and Process of Group Counseling (2)
   - CSP 680 Theory and Process of Consultation (3)
   - CSP 690 Methods of Inquiry (3)
   - CSP 690L Cross-Cultural Counseling Communication Skills (2)
   - CSP 695L Cross-Cultural Counseling Prepracticum (1) Cr/NC

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 (1-6) Cr/NC
   - CSP 755 Practicum I: Marriage and Family Therapy (3) Cr/NC
   - CSP 765 Practicum II: Marriage and Family Therapy (3) Cr/NC
   - CSP 780 Internship (2-12) Cr/NC
   - CSP 785 Marriage and Family Therapy Traineeship (1-10) Cr/NC

5. Research (a minimum of 3 units):
   - CSP 710A Professional Seminar (3) or
   - CSP 799A Thesis (3-9) Cr/NC

6. Electives: 24 units selected with adviser's approval.
Concentration in Multicultural Community Counseling

Community-Based Block
(Major Code: 08261) (SIMS Code: 331004)

The Master of Science in counseling with a concentration in multicultural community counseling prepares students in the community-based block (CBB) program to become practitioners in the field of community counseling. CBB is a special unit within the Department of Counseling and School Psychology. Social justice theory and democratic shared governance processes help students develop the skills to become effective multicultural counselors and social justice change agents in communities, schools, colleges, and/or social service agencies.

The off-campus community-based program is in the heart of two of San Diego's multiethnic neighborhoods and is a "block" program because students are required to take all classes together as a group (or block) for the entire year.

Admission to the program includes both a written application and group interview. Students should possess strong writing skills and complete courses in some or all of these subject areas: abnormal psychology, cultural anthropology, ethnic studies, human development, human sexuality, sociology, and other relevant social science courses prior to applying to the program.

Within the course requirements are practicum and internship courses. Students must complete a minimum of 280 hours of face-to-face supervised clinical experience counseling individuals, families, or groups. A clinical counselor trainee shall receive an average of at least one hour of direct supervisor contact for every five hours of client contact in each setting. The student must complete a minimum of 60 units of 500-, 600-, 700-numbered courses, including:

1. Common Core (6 units):
   - ED 690 Methods of Inquiry (3)
   - CSP 600 Cross-Cultural Counseling Communication Skills (2)
   - CSP 600L Cross-Cultural Counseling Prepracticum (1) Cr/NC

2. Foundations (8 units):
   - CSP 601 Theoretical Foundations of Counseling and Family Therapy (3)
   - CSP 610B Determinants of Human Behavior: Social and Cultural (1-3)
   - CSP 610C Determinants of Human Behavior: Development (1-3) OR
   - CFD 670 Seminar in Human Development Theories—Intervention and Prevention (3)
   - CSP 610D Determinants of Human Behavior: School Learning (1-3)
   - CSP 610E Determinants of Human Behavior: Biological (1-3)
   - CSP 615 Seminar in Multicultural Dimensions in Counseling (3)

3. Theory, Research, and Techniques (minimum 12 units):
   - CSP 621 Social Justice Democratic Theory, Processes, and Skills (2)
   - CSP 621L Social Justice Democratic Theory, Processes, and Skills Laboratory (1) Cr/NC
   - CSP 622A Ecosystems Assessment-Intervention I: Students (3)
   - CSP 622B Ecosystems Assessment-Intervention II: Schools (3)
   - CSP 623 Ecobehavioral Assessment-Intervention (3)
   - CSP 640 Testing and Assessment for Marriage and Family Therapists (2)
   - CSP 642 Multicultural Assessment in Individual and Community Counseling (2)
   - CSP 642L Multicultural Assessment in Individual and Community Counseling Laboratory (1)
   - CSP 645 College Planning and Career Development P-16 (3) OR
   - ARP 645B Assessment in Rehabilitation (3)
   - CSP 662A Counseling Interventions with Children and Adolescents: Marriage and Family Therapy (3)

4. Integration and Application of Theory, Research, and Techniques (minimum 9 units):
   - CSP 755 Practicum I: Marriage and Family Therapy (3) Cr/NC
   - CSP 765 Practicum II: Marriage and Family Therapy (3) Cr/NC
   - CSP 785 Marriage and Family Therapy Traineeship (1-10) Cr/NC

All students must minimally complete CSP 755, 765, and three units of CSP 785. Students' pacing of their clinical experience will vary. Therefore, students will register for additional units of CSP 785 as needed to insure oversight and supervision of all clinical hours of experience.

5. Additional requirements for the concentration (minimum 9 units):
   - CSP 606A Professional Issues in Mental Health Practice: California Law and Ethics for Marriage and Family Therapy (3)
   - CSP 618 Mental Health Recovery and the DSM: A Social Justice Perspective (3)
   - CSP 635 Sexuality and Intimacy in Couple and Family Therapy (2)
   - CSP 687 Mental Health, Substance Abuse, and Behavioral Addictions (1-3)
   - CSP 688 Family Systems Assessment of Child Abuse (1)
   - CSP 691 Violence in Couples’ Relationships (1)
   - CSP 694 Psychopharmacology for Marriage and Family Therapists (2-3)

6. Research (3-6 units):
   - CSP 710A Professional Seminar (3)
   - CSP 710B Professional Seminar (3) OR
   - CSP 799A Thesis (3) Cr/NCR

For Plan B, CSP 710A and CSP 710B form the capstone experience of the program. Students are required to complete a master’s project as part of the requirements of CSP 710A. In CSP 710B, students complete a theory integration paper and a comprehensive examination during their final semester of the program. In special circumstances, a student may elect to take the thesis option (Plan A).

7. Electives (0-3 units):
   - CSP 689 Family Counseling in the Schools (1)
   - OR as selected in consultation with the adviser:
     - CSP 770 Advanced Seminar in Counseling (3)
     - OR

Adherence to the Laws and Regulations Relating to the Practice of Marriage and Family Therapy issued by the Board of Behavioral Sciences, the Code of Ethics of the American Association for Marriage and Family Therapy, and the Code of Ethics of the California Association of Marriage and Family Therapists is mandatory. Students who knowingly or unknowingly violate any part of the laws or ethical code may be dismissed from the program without further qualification regardless of coursework completed or other academic achievement.

In addition to the requirement of maintaining a 3.0 GPA, students are reviewed for readiness to begin the clinical training sequence of the program. Students are evaluated regularly for skill development and adherence to legal and ethical standards.

Upon graduation, students apply with the Board of Behavioral Sciences, the California licensing board, for Intern Registration to continue eligibility for licensure. To qualify for marriage and family therapy licensure, students complete a qualifying graduate program, a total of 3,000 hours of clinical experience, and successfully complete two Board of Behavioral Sciences administered written examinations.

For additional written materials and information related to marriage and family therapy educational requirements leading to California Marriage and Family Therapy licensure, membership in marriage and family therapy professional organizations, and objectives related to pursuit of COAMFTE program accreditation, contact the Department of Counseling and School Psychology or the director at 619-594-3871 (http://edweb.sdsu.edu/csp/).
CSP 670 Theory and Process of Group Counseling (2)
CSP 670L Group and Community Counseling Laboratory (1) Cr/NC
CSP 650 Trauma and Crisis Counseling in Multicultural Context (1-3)
CSP 680 Theory and Process of Consultation (3)

4. Integration and Application of Theory, Research, and Techniques (minimum 6 units):
   CSP 730 Fieldwork in Counseling (2-6) Cr/NC
   CSP 740 Practicum: Individual Counseling (1-6) Cr/NC
   CSP 780 Internship (2-12) Cr/NC

5. Additional requirements for the concentration (minimum 9 units):
   CSP 606B Professional Issues in Mental Health Practice: Community-Based Block (3)
   CSP 618 Mental Health Recovery and the DSM: A Social Justice Perspective (3)
   CSP 635 Sexuality and Intimacy in Couple and Family Therapy and Counseling (1-2)
   CSP 687 Family and Systemic Treatment of Substance Abuse (1-3)
   CSP 688 Family Systems Assessment of Child Abuse (1)
   CSP 691 Violence in Couples’ Relationships (1)
   CSP 694 Psychopharmacology for Marriage and Family Therapists and Counseling (2-3)

6. Research (minimum 3 units):
   CSP 710A Professional Seminar (3) OR CSP 799A Thesis (3) Cr/NC/RP

For Plan B, CSP 710A is the capstone experience for the program. Students are required to complete a project as part of the requirements of CSP 710A. Students complete a theory integration paper and comprehensive examination as part of this project. In special circumstances, a student may elect to take the thesis option (Plan A).

7. Electives (0-3 units): Selected in consultation with adviser and may include courses listed above.

**Concentration in School Counseling**

(Major Code: 08261) (SIMS Code: 331041)

The Master of Science in counseling with a concentration in school counseling includes coursework and experiences designed to meet the competencies required for the California Pupil Personnel Services Credential (Credential Code: 00802). This credential authorizes the holder to function as a school counselor in grades K through 12. Applicants must also apply for the M.S. in Counseling. Additional information may be obtained from the Department of Counseling and School Psychology or the director of the school counseling concentration. The sequence of the degree must be planned in consultation with the program director. The M.S. and credential has a minimum of 60 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 concentrated study in school counseling.
   b. Related undergraduate coursework in anthropology, child development, cultural studies, education, ethnic studies, psychology, and sociology is recommended.
   c. Students must pass the California Basic Educational Skills Test (CBEST) prior to admission. This examination is required by the California Commission on Teacher Credentialing. Booklets containing registration forms and test information are available at http://www.cbest.nesinc.com.
   d. The student must present the Certificate of Clearance from the California Commission on Teacher Credentialing prior to beginning the sequence of study. Consult the Credentials Processing Center, EBA-250.

2. Common Core (6 units):
   ED 690 Methods of Inquiry (3)
   CSP 600 Cross-Cultural Counseling Communication Skills (2)
   CSP 600L Cross-Cultural Counseling Practicum (1) Cr/NC

3. Foundations (minimum 10 units):
   CSP 601 Theoretical Foundations of Counseling and Marriage and Family Therapy (3)
   CSP 610C Determinants of Human Behavior: Development (1-3)
   CSP 615 Seminar in Multicultural Dimensions in Counseling (3)
   CSP 620 Foundations of the Professional School Counselor Leader (3)

4. Theory, Research, and Techniques (minimum 30 units selected in consultation with adviser):
   CSP 624 Learning, Achievement, and Instruction for School Counselors (3)
   CSP 630 Social Justice and Holistic School Systems for School Counselors (3)
   CSP 645 College Planning and Career Development (P-16) (3)
   CSP 662B Counseling Interventions with Children and Adolescents: School Counseling and School Psychology (3)
   CSP 670 Theory and Process of Group Counseling (3)
   CSP 690 Theory and Process of Consultation (3)
   CSP 762 Prevention, Crisis Intervention, and Conflict Resolution in Schools (3)
   CSP 769 The Achievement Gap: Leadership, Advocacy, Systemic Change (3)
   CSP 775 ASCA Model I: Developing and Implementing a School Counseling Program (3)
   CSP 776 ASCA Model II: Evaluating and Improving School Counseling Programs (3)

5. Integration and Application of Theory, Research, and Techniques (minimum 8 units):
   CSP 730 Fieldwork in Counseling (2-6) Cr/NC (CSP 730 must be taken twice)
   CSP 740 Practicum (1-6) Cr/NC

6. Additional requirements for concentration (minimum three units selected in consultation with adviser):
   CSP 641 Psychometrics in Counseling and School Psychology (1)
   CSP 689 Family Counseling in the Schools (1)
   CSP 742 Policy, Politics, Law, and Ethics for School Counselors (3)

7. Research (minimum three units selected in consultation with adviser):
   CSP 710A Professional Seminar (3) OR CSP 799A Thesis (3) Cr/NC/RP

Students must maintain the minimum university requirement of 3.0 GPA. 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 concentration. In addition, three grades of B- or lower (including NC) are grounds for dismissal from the program regardless of coursework or other academic achievement. A copy of the ethical principles is included in the student handbook distributed at orientation.

Adherence to the ethical principles of the American School Counselor Association is mandatory. Students who knowingly or unknowingly violate any part of the ethical code may be dismissed from the program without further qualification regardless of coursework or other academic achievement. A copy of the ethical principles is included in the student handbook distributed at orientation.

In addition to the required courses and experiences, the student must pass all components of the CBEST to be eligible for the credential.
Master of Science Degree in Rehabilitation Counseling

General Information
The rehabilitation counseling program prepares graduates to enter the field of rehabilitation to provide rehabilitation and case management services to consumers with physical, emotional, and/or cognitive disabilities. Expanded curriculum is highlighted in assistive technologies, cognitive disabilities, mental health, career assessment, administration of rehabilitation programs, disability management, diversity program development, and work within public and private sectors. 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 rehabilitation in publicly supported programs after graduation and (2) students with a financial need. Graduates qualify for CRC certification and with additional coursework, are eligible for California licensure as a professional counselor. A limited number of students may qualify for admission to the Pupil Personnel Services – School Counseling Credential track, under a collaborative agreement with the Department of Counseling and School Psychology. Specializations and certificate programs are available in cognitive disabilities, psychiatric rehabilitation, and rehabilitation technology.

Admission to the Degree Curriculum
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 Graduate Admissions and the Department of Administration, Rehabilitation and Postsecondary Education.

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 are available at http://www.interwork.sdsu.edu/arpe/. As there are specific requirements for the program, it is not sufficient to file only the general university admission application.

Criteria for admission require that students submit evidence in written form (i.e., personal statement, official transcripts, and recommendation letters) 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 application. Students are accepted on a full-time and part-time basis.

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 comply with the regulations of the Division of Graduate Affairs as described in Part Four of this bulletin.

Specific Requirements for the Master of Science Degree in Rehabilitation Counseling
(Major Code: 12221) (SIMS Code: 331009)
In addition to meeting the requirements for classified graduate standing, and the basic requirements for the master’s degree, as described in Part Four of this bulletin, the student must complete a minimum of 60 graduate units of 500-, 600-, and 700-numbered courses, to include:

Core program (24 units):
- ARP 645A-645B Assessment in Rehabilitation (3-3)
- ARP 660 Theory and Process of Counseling in Rehabilitation (3)
- ARP 684 Rehabilitation Foundations (3)
- ARP 685A-685B Medical and Psychological Aspects of Disability (3-3)
- ARP 687 Placement Practices with Individuals with Disabilities (3)
- ED 690 Methods of Inquiry (3)

15 units of required courses selected from the following:
- ARP 607 Applications of Rehabilitation Technology (3)
- ARP 610 Educational Leadership (3)
- ARP 615 Seminar in Multicultural Dimensions in Rehabilitation Counseling (3)
- ARP 648 Group Dynamics in Rehabilitation (3)
- ARP 680 Seminar in Administration, Rehabilitation and Postsecondary Education (2-6)
- ARP 708 Human Development and Disability (3)
- ARP 710A-710B Seminar in Rehabilitation (3-3)
- ARP 720 Human Resource Development in Postsecondary Education (3)
- ARP 740 Advanced Seminar in Administration, Rehabilitation and Postsecondary Education (3)
- ARP 747 Educational Leadership in a Diverse Society (3)
- ARP 755 Governance and Policy Development in Postsecondary and Disability Systems (3)

A minimum of six units selected from the following:
- ARP 743 Fieldwork in Rehabilitation (3-6) Cr/NC
- ARP 744 Practicum in Rehabilitation (3-12) Cr/NC
- ARP 745 Internship in Rehabilitation (3-9) Cr/NC

6-9 units of electives as determined by consent of the faculty adviser.

Comprehensive Examination
One of three options must be completed for graduation from this program: comprehensive examination, portfolio, or thesis. The decision for this must be made by the student with the consent of the faculty adviser at least one semester prior to graduation. The student must demonstrate satisfactory performance as approved by the rehabilitation counseling program. Reservations for the examination must be made in advance in the Department of Administration, Rehabilitation and Postsecondary Education located in EBA-246. Students selecting the comprehensive examination option take the Certified Rehabilitation Counselor examination, offered by the Commission on Rehabilitation Counselor Certification.

Program Structure
The rehabilitation counseling program offers a 60 semester unit format that leads to the Master of Science degree in rehabilitation counseling. Students are accepted on a full-time and part-time basis.

Concentration in Clinical Rehabilitation and Clinical Mental Health Counseling
(Major Code: 12221) (SIMS Code: 331011)
To complete the Master of Science degree in rehabilitation counseling with a concentration in clinical mental health counseling, students must complete 63 units to include:

1. Required rehabilitation counseling courses (24 units):
   - ARP 615 Seminar in Multicultural Dimensions in Rehabilitation Counseling (3)
   - ARP 645A-645B Assessment in Rehabilitation (3-3)
   - ARP 648 Group Dynamics in Rehabilitation (3)
Program Admissions

All programs in the College of Education require the submission of a second application, the supplementary program application. The application is online at http://go.sdsu.edu/education/apply-now.aspx. All letters of recommendation, personal statements, and other required documents are submitted through the online application. Refer to the specific program requirements to be submitted and department contact information for each program.

Multiple Subject Bilingual 2042 Credential (Elementary K-6 Education) (Credential Code: 00200)

(1) Complete department application at http://go.sdsu.edu/education/apply-now.aspx;
(2) California Basic Educational Skills Test (CBEST) scores;
(3) Demonstration of Language and Cultural Proficiency:
   - Arabic: Copy of CSET LOTE subtests II and V for language of emphasis;
   - Filipino: Copy of CSET LOTE subtests II and V (test codes 159 and 260 respectively) for language of emphasis;
   - Mandarin: Copy of CSET LOTE subtests III and V for language of emphasis;
   - Spanish: Completion of DLE 415 or copies of CSET LOTE subtests III and V for Spanish language emphasis;
   - World Languages: Copy of CSET LOTE subtest IV (test code 250) for language of emphasis;
(4) TB test results;
(5) Two letters of recommendation, one of which must be from an elementary teacher if multiple subject or from a secondary teacher if single subject;
(6) Verification of early field experience (30 hours for multiple subject) or completion of DLE 415;
(7) Certificate of clearance (live scan);
(8) CPR that includes infant/child/adult;
(9) World Languages: Copy of CSET LOTE subtests III and V for language of emphasis;

Single Subject Bilingual 2042 Credential (Secondary Education Grades 6-12: Spanish Emphasis) (Credential Code: 00100)

(1) Department application (available at the department website);
(2) California Subject Examination for Teachers (CSET) scores or adviser recommendation;
(3) California Basic Educational Skills Test (CBEST) scores;
(4) Demonstration of Language and Cultural Proficiency:
   - Spanish: Completion of DLE 415 or copies of CSET LOTE subtests III and V for Spanish language emphasis;
(5) TB verification;
(6) Three letters of recommendation, one of which must be from an elementary teacher if multiple subject or from a secondary teacher if single subject;
(7) Verification of early field experience (45 hours for single subject) or completion of DLE 415;
(8) Certificate of clearance (live scan);
(9) CPR that includes infant/child/adult;
(10) World Languages: Copy of CSET LOTE subtests III and V for language of emphasis.

Section III.
Teaching and Service Credentials

Admission to Graduate Study

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.

All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the College of Education (refer to the appropriate degree section for the address to submit additional information).

Graduate Admissions

The following materials should be submitted as a complete package directly to:
Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;
NOTE:
   - Students who attended SDSU need only submit transcripts for work completed since last attendance.
   - Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.
(2) GRE scores (http://www.ets.org SDSU institution code 4682)
   - GRE is not required for teaching credential programs;
(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

ARP 660  Theory and Process of Counseling in Rehabilitation (3)
ARP 684  Rehabilitation Foundations (3)
ARP 755  Governance and Policy Development in Postsecondary and Disability Systems (3)
ED 690  Methods of Inquiry (3)

2. Advanced training in rehabilitation counseling (15 units):
   - ARP 601 Seminar in Best Practices in Psychiatric Rehabilitation (3)
   - ARP 608 Seminar in Principles of Psychiatric Rehabilitation (3)
   - ARP 685A-685B Medical and Psychological Aspects of Disability (3-3)
   - ARP 687 Placement Practices with Individuals with Disabilities (3)

3. Additional licensed professional clinical counselor requirements (15 units):
   - CFD 670 Seminar in Human Development Theories-Intervention and Prevention (3)
   - CSP 618 Mental Health Recovery and the DSM: A Social Justice Perspective (3)
   - CSP 650 Trauma and Crisis Counseling in Multicultural Community Context (3 units required)
   - CSP 687 Family and Systemic Treatment of Substance Abuse (3 units required)
   - CSP 694 Psychopharmacology for Marriage and Family Therapists and Counseling (3 units required)

4. Fieldwork requirements (9 units):
   - ARP 744 Practicum in Rehabilitation (6 units required)
   - ARP 745 Internship in Rehabilitation (3 units required)

ARP 687 Placement Practices with Individuals with Disabilities (3)
**Education**

**Reading and Literacy Leadership Specialist Credential**
(Credential Code: 00410)

Submit the following in the supplementary program application:

1. Personal statement;
2. Three letters of reference.

For more information contact:
School of Teacher Education
Attention: Dr. Marva Cappello (cappello@mail.sdsu.edu)
http://go.sdsu.edu/education/ste/reading.aspx
619-594-6131

**Education Specialist Credentials in Special Education**

For more information contact:
Department of Special Education
http://go.sdsu.edu/education/ste/reading.aspx
619-594-6131

**General Information**

The College of Education offers programs which lead to teaching, specialist, and services credentials. The School of Teacher Education (STE) offers programs for the SB 2042 preliminary credential. The Department of Dual Language and English Learner Education (DLE) offers programs for the SB 2042 preliminary bilingual credential. 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 College of Education, Office of Student Services, EBA-259.

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

**Approved Credential Program**

(Credit Code: 00410)

1. **Multiple Subject** (SB 2042)
   - Teach in self-contained classrooms and provide Specially Designed Academic Instruction in English (SDAIE) and English Language Development (ELD), kindergarten through twelfth grade.

2. **Multiple Subject (2042) Bilingual: Spanish**, Arabic, Filipino, or Mandarin
   - Teach in self-contained classrooms in primary language and English, English Language Development (ELD), and Specially Designed Academic Instruction in English (SDAIE).

3. **Single Subject** (SB 2042)
   - Teach single subject area in grades K-12 and provide Specially Designed Academic Instruction in English (SDAIE) and English Language Development (ELD).

4. **Single Subject Bilingual** (2042) emphasis: Spanish
   - Teach single subject area in primary language and English in grades K-12 and provide Specially Designed Academic Instruction in English (SDAIE) and English Language Development (ELD).

5. **Special Education: Education Specialist Credential for the Deaf and Hard of Hearing** (School of Speech, Language, and Hearing Sciences)
   - Teach special education students in the programs designated by each education specialist credential.

6. **Early Childhood Special Education**
   - Mild/Moderate Disabilities
   - Moderate/Severe Disabilities

7. **Pupil Personnel Services**
   - Clinical – Rehabilitative Services (School of Speech, Language, and Hearing Sciences)
   - School Counseling
   - School Psychology (see Ed.S. in School Psychology)
   - School Social Work (School of Social Work)

**Specialist Certificates**

- **Bilingual Cross-Cultural Language and Academic Development (BCLAD)**
- **Cross-Cultural Language and Academic Development (CLAD)**
- **Developing Gifted Potential**
- **Early Childhood Special Education**
- **Resource Specialist of Competence**
- **Support Education in Transition Specialist**
- **Teaching the Emotionally Disturbed/Behaviorally Disoriented**

*See Department of Special Education, NE-70, 619-594-6665 for more information.

**Information Applicable to Multiple Subject and Single Subject (SB 2042/Bilingual) Credentials**

Departmental admission to Multiple Subject or Single Subject (SB 2042) credential programs 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.

**Students Who Seek to Complete a Credential**

Teachers with Preliminary RYAN 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 College of Education, Office of Student Services, EBA-259, 619-594-6320. A student transferring into San Diego State University to complete requirements for either the Preliminary 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. The student will also be held responsible for successful completion of a California Teacher Credentialing approved Teacher Performance Assessment (edTPA).

**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 any Multiple Subject or Single Subject credential program.

**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 specialized 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 College of Education, Office of Student Services, EBA-259.
Multiple Subject (SB 2042) Credential (Elementary Education)  
(Credential Code: 00200)

Multiple Subject—Preliminary Credential  
Persons interested in teaching in the traditional elementary school will typically pursue the Multiple Subject (SB 2042) credential which authorizes teaching service in self-contained classrooms in preschools, 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 better.
3. Basic skills competency as demonstrated through passing scores on the California Basic Educational Skills Test (CBEST).
4. Successful completion of the Multiple Subjects examination of the California Subject Examinations for Teachers (CSET). Must have scores taken within five years prior to recommendation.
5. Successful completion of a California Teacher Credentialing approved Teacher Performance Assessment (edTPA).
6. Passing scores on the Reading Instruction Competence Assessment (RICA).
7. 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 General Catalog section on "Graduation Requirements; IV. American Institutions Requirement.
8. Knowledge of health education, including subSTANCE abuse and nutrition: Public Health 101 or Teacher Education 280 or approved equivalent.
9. Demonstrated knowledge of the needs of and methods of providing educational opportunities to individuals with exceptional needs: Special Education 450 or 500.
10. Demonstrated knowledge of computer hardware, software, and applications to educational/classroom use (computer literacy).
11. Verify current training and certification in cardiopulmonary resuscitation (CPR).

NOTE: According to SB 2042 legislation, teachers will be able to earn Professional Clear Credentials upon successful completion of a clear credential program on an induction program approved by the California Commission on Teacher Credentialing. For information about the SDSU clear and induction programs; visit the website at [http://go.sdsu.edu/education/site/apply_clear.aspx](http://go.sdsu.edu/education/site/apply_clear.aspx). Undergraduate students in the Multiple Subject credential program may register for concurrent post-baccalaureate 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 an online departmental application to the School of Teacher Education. Contact the School of Teacher Education for application dates or find them at [http://go.sdsu.edu/education/site/apply_credentials_new.aspx](http://go.sdsu.edu/education/site/apply_credentials_new.aspx). Applications must verify the following:

1. CBEST Examination. Students must pass the California Basic Educational Skills Test (CBEST) prior to admission to the Multiple Subject credential program. Registration information and materials for the CBEST are available at [www.cbest.nesinc.com](http://www.cbest.nesinc.com). Candidates are urged to take this examination as early as possible. Candidates are required to submit a copy of the individual score reports; uploaded to the online application.
2. Subject Matter Competency. Students must submit passing scores on the California Subject Examination for Teachers—Multiple Subjects (CSET-MS) in order to verify subject matter competency in diversified subjects commonly taught in self-contained classrooms. For the traditional, post-baccalaureate program (see below), test scores must be submitted prior to admission to the program. Test scores submitted for verification of subject matter competency are valid for only five years from the date the first subtest was passed and must be valid at the time of recommendation for the credential. Registration information and registration materials are available at [http://www.cset.nesinc.com](http://www.cset.nesinc.com).

3. Prerequisite Courses. These courses or approved equivalents must be completed with grades of C, C-, or better no more than seven years prior to admission to the Multiple Subject Credential Program. The courses may be in progress at the time of program application. Proof of registration is required to be considered for admission.
   a. Education 451, Introduction to Multicultural Education (3)
   b. Teacher Education 280, Health Education for Teachers (1)
   c. Mathematics 210, Number Systems in Elementary Mathematics (3) in lieu of Mathematics 210, candidates may substitute any calculus course taken at the college or university with a grade of credit, "C," or better.
   d. Special Education 450, Classroom Adaptations for Special Populations (2)

Candidates are required to submit unofficial transcripts from SDSU and 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 attained a grade point average of at least 2.67 in the last 60 semester (or 90 quarter) units attempted. Candidates are required to submit official transcripts from all colleges and universities attended (with the exception of SDSU) to the SDSU Graduation Admissions office for GPA calculations. Official SDSU transcripts are not required as they can be accessed via the SDSU WebPortal at [http://www.sdsu.edu/portal](http://www.sdsu.edu/portal).

5. Letters of Recommendation. Candidates must submit two letters of recommendation from individuals who know the candidate in different capacities (i.e. employer/supervisor, university professor, classroom teacher) and who can comment directly on factors such as the candidate’s qualifications for a teaching career in a multicultural setting, work or personal experiences, experience teaching or supervising students or other groups of individuals, personal character, and/or potential for success as a teacher. Letters from family or friends will not be considered. These letters will be collected through our online application system. Students will need the name and e-mail address for those who will be providing a recommendation for them.

6. 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 HMOs, or public health agencies.

7. 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 or as quick as two weeks depending on one’s background. Candidates must be fingerprinted through LiveScan and then submit the application directly to the California Commission on Teacher Credentialing (CCTC). The clearance must be granted on the CCTC website prior to admission to the credential program. Possessors of K-12 California credentials or Emergency Teaching Permits may satisfy this requirement with these valid credentials and will need to be kept current throughout the credential program.

8. Early Field Experience. Candidate must successfully complete an approved course with fieldwork experience OR a minimum of 45 hours of independent observation and participation in a “regular” classroom in public elementary schools. This is documented through the early field experience verification page available for downloading from the School of Teacher Education website at [http://go.sdsu.edu/education/site/apply_credential_step_8.aspx](http://go.sdsu.edu/education/site/apply_credential_step_8.aspx).


10. 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 application.

In addition to the minimum admissions standards identified above, the Multiple Subject Admissions and Retention Committee may also 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. The chancellor’s office, Executive Order 1032, establishes standards for admission to teacher credential programs as follows: “The candidate shall have demonstrated personality and character traits that satisfy the standards of the teaching profession. The assessment of the candidates shall be made by the teacher education faculty of the campus, who may also consider information from public school personnel and others. The campus may use tests, observations, and interviews for this assessment.”

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 School of Teacher Education, EBA-259, 619-594-6320. All candidates are urged to attend one of the regularly scheduled group advising sessions prior to making an individual appointment.

Program Description

Students who have already earned the baccalaureate or higher degree must apply to the traditional Multiple Subject Preparation Program. SDSU Liberal Studies majors may apply to the traditional Multiple Subject Preparation Program which is offered in a variety of formats called “blocks” including the full-time blocks over two semesters, and a three semester block.

Full-time student teaching is required of all candidates according to state law. Our programs combine coursework and student teaching to link theory and practice. The curriculum emphasizes the preparation of reflective practitioners to meet the needs of culturally and linguistically diverse children. Most blocks are based at local elementary schools where we have established partnerships with schools and teachers. In these blocks, student teachers take their observations, and interviews for this assessment.”

Candidates who have passed the CSET completely and who desire to starting student teaching in the third semester of the program. Students who have passed the CSET completely and who desire the Three Semester Block will be given priority placement. Students in the Three Semester Block complete a four unit field experience course in their second semester, and a 12 unit student teaching assignment in their third semester. These two assignments will be assigned at differing grade levels, one in K-3 and one in 4-6.

The following is the sequence of courses students will take in the Three Semester Block:

- **Semester 1**
  - TE 362 Fieldwork in Community Settings ........................................ 3
  - TE 910C Teaching Science in the Elementary School ...................... 3
  - TE 923 Psychological Foundations of Education ................................ 3
  - TE 930 Teaching Reading and Language Arts in the Elementary School .................................................. 3

- **Semester 2**
  - DLE 915A Teaching and Learning in the Content Area: ELD/SDAIE: Multiple Subjects ........................................ 3
  - TE 902 Classroom Management Skills ........................................... 1
  - TE 910A Teaching Mathematics in the Elementary School .............. 3
  - TE 910B Teaching Social Studies in the Elementary School .......... 3
  - TE 930 Teaching Reading and Language Arts in the Elementary School .................................................. 3
  - TE 960 Basic Student Teaching Seminar (Cr/NC) .......................... 2
  - TE 965 Basic Student Teaching in Elementary Schools (Cr/NC) ........ 8

- **Semester 3**
  - TE 961 Advanced Student Teaching Seminar (Cr/NC) ....................... 2
  - TE 966 Advanced Student Teaching in Elementary Schools (Cr/NC) .... 8
  - TE 970 Teaching Event Assessment (Cr/NC) .................................. 3

Total Units 48

Variations on the Multiple Subject Credential Program

Three Semester Block Option

To qualify for admission, candidates must have completed (1) a baccalaureate or higher degree and (2) the Admission Standards and Qualifications for the Multiple Subject Credential Program listed above, with two exceptions:

(1) The California Certificate of Clearance may still be pending at the time of admission to the Three Semester Block. This clearance must be granted by the State of California before the start of the second semester of this program.

(2) Students must have taken all of the CSET examination subtests for Multiple Subjects, but can be admitted to the Three Semester Block without completely passing this examination. Students must pass at least one subtest and be within 20 points (combined) of passing the other two subtests. The examination must be completely passed prior to starting student teaching in the third semester of the program.

Students who have already earned the baccalaureate or higher degree must apply to the traditional Multiple Subject Preparation Program which is offered in a variety of formats called “blocks” including the full-time blocks over two semesters, and a three semester block.

Full-time student teaching is required of all candidates according to state law. Our programs combine coursework and student teaching to link theory and practice. The curriculum emphasizes the preparation of reflective practitioners to meet the needs of culturally and linguistically diverse children. Most blocks are based at local elementary schools where we have established partnerships with schools and teachers. In these blocks, student teachers take their observations, and interviews for this assessment.”

Candidates who have passed the CSET completely and who desire the Three Semester Block will be given priority placement. Students in the Three Semester Block complete a four unit field experience course in their second semester, and a 12 unit student teaching assignment in their third semester. These two assignments will be assigned at differing grade levels, one in K-3 and one in 4-6.

The following is the sequence of courses students will take in the Three Semester Block:

- **Semester 1**
  - TE 362 Fieldwork in Community Settings ........................................ 3
  - TE 910C Teaching Science in the Elementary School ...................... 3
  - TE 923 Psychological Foundations of Education ................................ 3
  - TE 930 Teaching Reading and Language Arts in the Elementary School .................................................. 3
  - DLE 915A Teaching and Learning in the Content Area: ELD/SDAIE: Multiple Subjects ........................................ 3

- **Semester 2**
  - TE 902 Classroom Management Skills ........................................... 1
  - TE 910A Teaching Mathematics in the Elementary School .............. 3
  - TE 910B Teaching Social Studies in the Elementary School .......... 3
  - TE 930 Teaching Reading and Language Arts in the Elementary School .................................................. 3
  - TE 960 Basic Student Teaching Seminar (Cr/NC) .......................... 2
  - TE 965 Basic Student Teaching in Elementary Schools (Cr/NC/PA) .... 8

- **Semester 3**
  - TE 961 Advanced Student Teaching Seminar (Cr/NC) ....................... 2
  - TE 966 Advanced Student Teaching in Elementary Schools (Cr/NC/PA) .... 8
  - TE 970 Teaching Event Assessment (Cr/NC) .................................. 3

Total Units 48

Multiple Subject Bilingual 2042 Credential (Elementary K-6 Education)

(Credential Code: 00200)

The Multiple Subject Bilingual 2042 Credential (Elementary K-6 Education) is available to students interested in teaching in a bilingual Spanish, Arabic, Filipino, Japanese, or Mandarin 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 school. Because courses on methods of teaching subject areas are taught in Spanish, Arabic, Filipino, Japanese, or Mandarin as well as English, candidates must meet the respective language of emphasis proficiency requirements as outlined below.

With the passage of Proposition 227, requiring all students in public schools be taught in English unless a school has received a waiver, the Dual Language and English Learner Education Department and the College of Education remains committed to the training of bilingual teachers. The credential remains as the most desirable credential in California. Furthermore, the university is committed with developing leaders in cultural, economic, educational, scientific, social, and
technical fields, as well as addressing the linguistic diversity of school communities. 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.

Candidates who will pursue this credential need to specify "Multiple Subject Instruction–Bilingual" in the application for graduate admission to SDSU (Code: 00200). Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.

**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 California Commission on Teacher Credentialing. Booklets containing registration forms and test information are available at http://www.cbest.nesinc.com.

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. To be admitted to the bilingual multiple subject credential program, a candidate shall have achieved a passing score on the California Subject Examination for Teachers (CSET) that is required for the credential sought. Registration information and materials for the CSET are available at http://www.cset.nesinc.com.

3. **Prerequisite Courses.** The following courses must be completed with a grade of C or better prior to admission to the program, but may be in progress at the time of application or taken in the term immediately prior to the program start date.

   - **Liberal Studies Majors.**
     - DLE 515 Multilingual Education: Theory and Practice for Bilingual Teachers ........................................... 3
     - ED 451 Introduction to Multicultural Education ................................................. 3
     - SPED 500 Human Exceptionality ................................................. 3
     - TE 280 Health Education for Teachers ................................................. 1
   - **Non Liberal Studies Majors (must take the above and below prerequisites).**
     - * MATH 210 Number Systems in Elementary Mathematics ........... 3

   *With approval of the mathematics advisor, any of the following mathematics courses may be substituted for Mathematics 210: Mathematics 124, 150, 312.

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. Candidates are required to submit one set of official transcripts from all colleges and universities attended to SDSU Graduate Admissions for GPA calculations. If students are concerned about their GPA, advisers are available in the College of Education, Office of Student Services, EBA-259, 619-594-6320.

5. **Letters of Recommendation.** Two professional references and one letter 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. **Tuberculin Clearance.** Evidence of a negative tuberculinosis 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 HMOs, or public health agencies.

7. **Early Field Experience.** Applicants must provide evidence of a minimum of 30 hours of experience with students in typical elementary classroom settings within the last three years. Evidence must be documented. Completion of DLE 415 can be used to meet this requirement.

8. **Oral English and Written Statement of Professional Goals and Philosophy.** Have an interview with the admissions and retention committee of the DLE Department.

9. **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 be as long as eight months. Possessors of K-12 California credentials may satisfy this requirement by submitting copies of those certificates. Candidates must submit the application directly to the California Commission on Teacher Credentialing. A copy of the application must be provided to the DLE Department.

10. **Credential Advising Appointment.** Advising is available in the College of Education, Office of Student Services, EBA-259, 619-594-6320. Group advising is also available. Check website for availability at http://go.sdsu.edu/education/oss/.

11. **Language and Culture Proficiency.** All candidates must demonstrate minimum Language Proficiency and Cultural Awareness for the language of emphasis to meet their specific Bilingual Authorization. This can be met by passing the CSET LOTE examination or earning a C (2.0) or better in DLE 415.

12. **Reading Instruction Competence Assessment (RICA).** California Education Code Section 44283 requires that candidates for the preliminary or clear credential multiple subject pass this RICA requirement. The purpose of this assessment is to ensure that the candidate possess the knowledge and skills important for the provision of effective reading instruction to students. The RICA requirement applies to candidates who did not complete all credential requirements prior to October 1, 1998. Candidates must have passed the RICA in order to be able to file for the credential.

13. **Appeals Process.** Candidates who do not meet all the admission requirements may petition the DLE Department Admissions and Retention Committee for individual consideration; petition letters must be submitted concurrently with the application packets.

14. **Application.** Applicants should complete application procedures the semester prior to beginning the credential program. Deadlines are available at http://go.sdsu.edu/education/applynow.aspx. In addition to the minimum admissions standards identified above, the DLE Department Admissions and Retention Committee may also consider qualifications such as previous teaching experience and relevant working experience with children. Due to the number of applicants, application to the program does not ensure admission.

**Multiple Subject Bilingual 2042 Program**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>DLE 523</td>
<td>Psychological Foundations for Bilingual Teachers in K-6 Classrooms</td>
<td>3</td>
</tr>
<tr>
<td>DLE 532</td>
<td>Bilingual Education in Language Arts for Elementary Students</td>
<td>3</td>
</tr>
<tr>
<td>DLE 910</td>
<td>Teaching Mathematics to Bilingual Students</td>
<td>3</td>
</tr>
<tr>
<td>DLE 911</td>
<td>Teaching Social Studies to Bilingual Students</td>
<td>3</td>
</tr>
<tr>
<td>DLE 912</td>
<td>Teaching Science to Bilingual Students</td>
<td>3</td>
</tr>
<tr>
<td>DLE 915A</td>
<td>Teaching and Learning in the Content Area: English Language Development/SDAIE: Multiple Subjects</td>
<td>3</td>
</tr>
<tr>
<td>DLE 931</td>
<td>Skills in Teaching Reading to Bilingual Elementary Students</td>
<td>1-3</td>
</tr>
<tr>
<td>DLE 954</td>
<td>Classroom Organization for Democratic Teaching in Bilingual Classrooms</td>
<td>1-4</td>
</tr>
<tr>
<td>DLE 960</td>
<td>Professional Seminar for Bilingual Teacher Candidates (Cr/NC)</td>
<td>1-4</td>
</tr>
<tr>
<td>DLE 961</td>
<td>Practicum in Elementary Bilingual Classroom (Cr/NC)</td>
<td>1-12</td>
</tr>
<tr>
<td>DLE 962</td>
<td>Student Teaching for Elementary Bilingual Students II (Cr/NC)</td>
<td>1-12</td>
</tr>
<tr>
<td>ED 970</td>
<td>Teaching Event Assessment (Cr/NC)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Preliminary 2042 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 Dual Language and English Learner Education for further information.)
3. Passage of Multiple Subject/CSET.
4. Successful completion of Language Proficiency and Cultural Awareness Requirements for Language of Emphasis.
5. Demonstrate knowledge of principles and provisions of United States Constitution through successful completion of three-unit
Education

college level course or examination. Courses are listed in General Catalog section on “Graduation Requirements,” IV. American Institutions Requirement.
6. Passage of California Basic Educational Skills Test (CBEST).
7. Passage of Reading Instruction Competence Assessment (RICA) Test.
8. Demonstrated knowledge of the needs of and methods of providing educational opportunities to individuals with exceptional needs: Special Education 500.
9. Demonstrated knowledge of computer hardware, software, and applications to educational/classroom use (computer literacy).
10. Knowledge of health education in California, including substance abuse and nutrition: Teacher Education 280 – Health Education for Teachers (1 unit) and verification of CPR competency.

NOTE: According to SB 2042 legislation, teachers will be able to earn Professional Clear Credentials upon successful completion of induction programs sponsored by their employers and approved by the California Commission on Teacher Credentialing.

Bilingual (Spanish) 2042

Multiple Subject and Special Education Credential Program

(Credential Code: 00200)

The joint Multiple Subject Bilingual Credential (Spanish Emphasis) and Preliminary Special Education Specialist Credential for Mild/Moderate Disabilities is a two-year dual credential program. This program is available to students interested in teaching in bilingual elementary classrooms and special education settings. Upon completion, the bilingual 2042 multiple subjects credential authorizes the holder to teach in any self contained bilingual or regular classroom in which one teacher is responsible for all of the subjects commonly taught in the elementary schools. The specialist credential for mild/moderate disabilities authorizes the holder to teach students with designated disabilities in a variety of school settings.

Candidates who wish to apply to the two-year combined credential program need to specify “Multiple Subject Bilingual Spanish and Special Education Emphasis” on the application for graduate admission to SDSU. Students can access the electronic application online at http://www.calstate.edu/apply.

The admissions committee consists of faculty advisers from the Dual Language and English Learner Education and Special Education departments. Advisers from both programs will review and interview perspective candidates. The following materials should be submitted as a complete package directly to the Dual Language and English Learner Education Department.

1. One set of official transcripts in sealed envelopes from each issuing institution.
2. Complete supplementary program application online at http://go.sdsu.edu/education/applynow.aspx (copy of scores for CBEST/Spanish Proficiency Examination/CSET or Portfolio, TB test results, letters of recommendation, early field experience, character and identification clearance, and statement of professional goals and philosophy).

Standards for Admission

1. CBEST. Students must pass the California Basic Educational Skills Test prior to admission to the bilingual MS and SPED credential program. This examination is required by the California Commission on Teacher Credentialing. Booklets containing registration forms and test information are available at http://www.cbest.nesinc.com.
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 bilingual credential program. To be admitted to the multiple subject bilingual credential and Special Education programs, a candidate shall have achieved a passing score on the California Subject Examination for Teachers (CSET) that is required for the credential sought. Registration information and materials for the CSET are available at http://www.cset.nesinc.com.

3. Prerequisite Courses. The following courses must be completed with a grade of C or better prior to admission to the program, but may be in progress at the time of application or taken in the term immediately prior to admission.

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<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tr>
<td>DLE 515</td>
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<tr>
<td>ED 451 or SPED 527</td>
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<td>SPED 500</td>
<td>3</td>
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<td>SPED 501 or DLE 523</td>
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<td>SPED 524</td>
<td>3</td>
</tr>
<tr>
<td>TE 280</td>
<td>1</td>
</tr>
</tbody>
</table>

4. Grade Point Average. Candidates must have a minimum 2.67 overall or 2.75 in the last 60 semester (90 quarter) units attempted. Candidates are required to submit official transcripts from all colleges and universities attended and unofficial SDSU transcripts for GPA calculations.

5. Letter of Recommendation. Two professional references and one letter 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. Tuberculin Clearance. Evidence of a negative tuberculin 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 HMOs, or public health agencies.

7. Early Field Experience. Applicants must provide evidence of a minimum of 30 hours of experience with students in typical elementary classroom settings within the last five years. Evidence must be documented.

8. Oral English and Written Statement of Professional Goals and Philosophy. A candidate statement (500 word maximum) that addresses background of experiences that have contributed to the desire to be a special education/bilingual teacher, as well as the personal and professional factors the candidate considers to be most important if one is to become an effective and caring bilingual special educator. Candidates will also have an interview with the admissions and retention committee of the DLE and SPED Departments.

9. 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. Possessors of K-12 California credentials may satisfy this requirement by submitting copies of those certificates. Candidates must submit live scan and personal information directly to the California Commission on Teacher Credentialing, http://www.ctc.ca.gov. A copy of the certificate of clearance must be provided to the DLE Department.

10. Credential Advising Appointment. Advising is available in the College of Education, Office of Student Services, EBA-259, 619-594-6320. Ernesto Sanz is the adviser for the dual credential program and may be contacted at: esanz@mail.sdsu.edu, 619-594-3265.

11. Language and Culture Examination. All candidates must demonstrate minimum language proficiency and cultural awareness for the language of emphasis to meet their specific bilingual authorization. This can be met by passing the CSET LOTE examination or earning a C (2.0) or better in DLE 415.
12. Reading Instruction Competence Assessment (RICA). California Education Code Section 44283 requires that candidates for the preliminary or clear credential multiple subject pass this RICA requirement. The purpose of this assessment is to ensure that the candidate possesses the knowledge and skills important for the provision of effective reading instruction to students. The RICA requirement applies to candidates who did not complete all credential requirements prior to October 1, 1998. Candidates must have passed the RICA in order to be able to file for the credential.

13. Appeals Process. Candidates who do not meet all the admission requirements may petition the DLE and SPED Department Admissions and Retention Committee for individual consideration; petition letters must be submitted concurrently with the application packets.

14. Application. Applicants should complete application procedures the semester prior to beginning the credential program. Deadlines are available at http://go.sdsu.edu/education/applynow.aspx.

In addition to the minimum admissions standards identified above, the DLE and SPED Department Admissions and Retention Committee may also consider qualifications such as previous teaching experience and relevant working experience with children. Due to the number of applicants, application to the program does not ensure admission.

Program: Year One

DLE 523 Psychological Foundations for Biliteracy Teachers in K-6 Classrooms .................................................. 3
DLE 532 Biliteracy Teaching in Language Arts for Elementary Students .................................................. 3
DLE 910 Teaching Mathematics to Bilingual Students .................................................. 3
DLE 911 Teaching Social Studies to Bilingual Students .................................................. 3
DLE 912 Teaching Science to Bilingual Students .................................................. 3
DLE 915A Teaching and Learning in the Content Area: English Language Development/SDAIE: Multiple Subjects .................................................. 3
DLE 931 Skills in Teaching Reading to Bilingual Elementary Students .................................................. 3
DLE 954 Classroom Organization for Democratic Teaching in Bilingual Classrooms .......... 1-4
DLE 960 Professional Seminar for Bilingual Teacher Candidates (Cr/NC) .................................................. 1-4
DLE 961 Practicum in Elementary Bilingual Classroom (Cr/NC) .................................................. 8
DLE 962 Student Teaching for Elementary Bilingual Students II (Cr/NC) .................................................. 8
ED 970 Teaching Event Assessment (Cr/NC) .................................................. 3

Program: Year Two

SPED 505 Educational Services for Students with Serious Emotional Disturbance ................. 1
SPED 534 Classroom Assessment of Students with Mild/Moderate Disabilities ............... 3
SPED 553 Behavioral Strategies and Supports for Students with Disabilities ............... 3
SPED 560 Applications of Technology for Individuals with Disabilities ............... 3
SPED 647 Special Education Adaptations of Basic Skills Instruction ............... 3
SPED 648 Advanced Special Education Adaptations ............... 3
SPED 662 Collaboration, Legislation, and Educational Planning in Special Education ............... 1
SPED 970A Practicum: Students with Disabilities in General and Special Education: Mild/Moderate Disabilities .......... 4
SPED 980A Advanced Practicum in Special Education: Mild/Moderate Disabilities (Cr/NC) ............... 10

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 Dual Language and English Learner Education for further information.)
3. Passage of Multiple Subject/CSET.
4. Passage of the Spanish Language Proficiency and Cultural Awareness Examination, or CSET LOTE, or Dual Language and English Learner Education 415.
5. Demonstrated knowledge of principles and provisions of United States Constitution through successful completion of three-unit college level course or examination. Courses are listed in General Catalog section on "Graduation Requirements," IV. American Institutions Requirement.
6. Passage of California Basic Educational Skills Test (CBEST).
7. Passage of Reading Instruction Competence Assessment (RICA) Test.
8. Completion of an approved fifth year program (a minimum of 30 upper division or graduate-level postbaccalaureate units).
9. Demonstrated knowledge of the needs of and methods of providing educational opportunities to individuals with exceptional needs.
10. Demonstrated knowledge of computer hardware, software, and applications to educational/classroom use (computer literacy).
11. Knowledge of health education in California, including substance abuse and nutrition: Teacher Education 280 – Health Education for Teachers (1 unit) and verification of CPR competency.

NOTE: According to SB 2042 legislation, teachers will be able to earn Professional Clear Credentials upon successful completion of induction programs sponsored by their employers and approved by the California Commission on Teacher Credentialing.

Single Subject (SB 2042) Credential (Secondary Education)

(Credential Code: 00100)

Single Subject–Preliminary Credential

Persons interested in teaching in the traditional secondary school will typically pursue the Single Subject (SB 2042) 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

- English language arts: Comparative Literature, English
- Mathematics: Mathematics
- Music: Music (currently accepting applications from SDSU undergraduate majors only)
- Science: Biology, 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 better and coursework in reading methods.
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 or through California Subject Examinations for Teachers (CSET) examinations. Candidates should check with the College of Education, Office of Student Services, EBA-259, to clarify the appropriate means for satisfaction of the subject matter competency requirement in their subject matter area(s). 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 the General Catalog on “Graduation Requirements,” IV. American Institutions Requirement.
6. Knowledge of health education, including substance abuse and nutrition: Public Health 101, or Teacher Education 280, and verification of CPR competency.
7. Demonstrated knowledge of the needs of and methods of providing educational opportunities to individuals with exceptional needs: Special Education 450 or 500.
8. Demonstrated knowledge of computer hardware, software, and applications to educational/classroom use (computer literacy).
9. Successful completion of a California Commission on Teacher Credentialing (CCTC) approved Teacher Performance Assessment (TPA).
10. Current certification in adult, child, and infant cardiopulmonary resuscitation (CPR).

NOTE: According to SB 2042 legislation, teachers will be able to earn Professional Clear Credentials upon successful completion of induction programs sponsored by their employers and approved by the California Commission on Teacher Credentialing.

Undergraduate students in the Single Subject credential program may register for concurrent post-baccalaureate 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 Single Subject Credential Program

Candidates for the Single Subject Credential program must satisfy the standards and qualifications listed below and submit an online departmental application to the School of Teacher Education. Contact the School of Teacher Education for application dates or find them at the School of Teacher Education website at http://go.sdsu.edu/education/site/apply_credentials_new.aspx.

Completed applications 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. Candidates are urged to take this examination as early as possible. Candidates are required to submit a scan 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, or by submitting passing scores on the appropriate California Subject Examinations for Teachers (CSET) examinations. 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 the General Catalog. Approved waiver programs from other California universities are acceptable. Test scores submitted for verification of subject matter competency are valid for five years from the date of the examination. Information and registration materials for all current examinations are available at http://www.cset.nesinc.com.

3. Prerequisite Courses. These courses or approved equivalents must be completed with grades of C, Cr, or better no more than seven years prior to admission to the Single Subject Credential Program. The courses may be in progress at the time of program application. Proof of registration is required to be considered for admission.

a. Education 451. Introduction to Multicultural Education (3)
   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 280. Health Education for Teachers (1)
   This course provides topics designated in the Health Framework for California to include how to infuse health topics into the general curriculum.

c. Special Education 450. Classroom Adaptations for Special Populations (2)
   This course provides strategies for adapting curriculum, differentiating instruction, meeting social and behavioral needs, and modifying assessments for students with disabilities and/or gifted and talented students in general education classrooms.

4. Grade Point Average. Candidates must have attained a grade point average of at least 2.67 in all baccalaureate and post-baccalaureate coursework or 2.75 in the last 60 semester (90 quarter) units attempted. Candidates are required to submit official transcripts from all colleges and universities attended and unofficial copies of transcripts for SDSU coursework for GPA calculations.

5. Letters of Recommendation. Candidates must submit two letters of recommendation. One letter must be from a faculty member in the candidate’s major, and one from an individual who knows the candidate well (but is not related by blood or marriage) and who can comment directly on factors such as the candidate’s qualifications for a teaching career in a multicultural setting, work or educational experiences, experience teaching or supervising students or other groups of individuals, personal character, and/or potential for success as a teacher. These letters are now submitted electronically through our online application process.

6. 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 HMOs, or public health agencies.

7. 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. Possessors of K-12 California credentials may satisfy this requirement by submitting copies of those certificates. Candidates must submit the application directly to the California Commission on Teacher Credentialing. Clearance must be granted on the CCTC website prior to the start of the student teaching.

8. Early Field Experience. Candidate must successfully complete an approved course with field work experience OR a minimum of 45 hours of independent observation and participation in a “regular” classroom in public secondary schools. This is documented through the early field experience verification page - single subject available for downloading from the School of Teacher Education website at http://go.sdsu.edu/education/site/apply_credential_step_9.aspx.


10. Appeals Process. Candidates who do not meet all the admission requirements may petition the Single Subject Admissions and Retention Committee to be considered for admission. In addition to the minimum admissions standards identified above, the Single Subject Admissions and Retention Committee may also consider qualifications such as previous teaching experience, relevant working experience with children, and second language ability. A personal interview may also be necessary. Due to the number of applicants, application to the program does not ensure admission. The chancellor’s office, Executive Order 1032, establishes standards for admission to teacher credential programs as follows: “The candidate shall have demonstrated personality and character traits that satisfy the standards of the teaching profession. The assessment of the candidates shall be made by the teacher education faculty of the campus, who may also consider information from public school personnel and others. The campus may use tests, observations, and interviews for this assessment.”

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 School of Teacher Education, EBA-259, 619-594-6320. All candidates are urged to attend one of the regularly scheduled group advising sessions prior to making an individual appointment.
Program Description
The Single Subject Credential Program is offered in a variety of formats called "blocks" to include full-time blocks over two semesters and a three semester block. Full-time student teaching is required of all candidates according to State law. Examinations and/or coursework prerequisite to program admission, if not completed within undergraduate studies, may extend the time limit commitment for credential issuance by one or more semesters. The second semester student teaching assignment represents a commitment of three periods a day in a local public school with the possible addition of an administrative assignment at the same site. Students may be required to remain with their placement for the public school semester, which can be three to four weeks longer than the university term.

The three semester block courses are generally offered in the late afternoon and early evening. Student teaching assignments do require a daytime commitment and will be scheduled according to individual need in consultation with the program coordinator.

Our programs combine coursework and student teaching to link theory and practice. The curriculum emphasizes the preparation of reflective practitioners who will be able to meet the needs of culturally and linguistically diverse children. Each student typically completes student teaching in two different grade levels; one assignment is at the middle school level (in grades 6-8) and another is at the high school level (in grades 9-12). All students enrolled in the Single Subject Teacher Preparation Program will take the following courses. The scheduling and sequence of the courses vary with individual block offerings.

Single Subject Required Courses

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
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<tr>
<td>TE 914</td>
<td>Teaching and Learning in the Content Area: Major</td>
<td>3</td>
</tr>
<tr>
<td>TE 922</td>
<td>Behavioral and Psychological Aspects of Teaching</td>
<td>3</td>
</tr>
<tr>
<td>TE 933</td>
<td>Teaching of Reading in the Secondary School</td>
<td>3</td>
</tr>
<tr>
<td>TE 954</td>
<td>Humanistic and Social Aspects of Teaching</td>
<td>3</td>
</tr>
<tr>
<td>TE 963</td>
<td>Secondary School Student Teaching I (Cr/NC/RF)</td>
<td>6</td>
</tr>
<tr>
<td>TE 964</td>
<td>Secondary School Student Teaching II (Cr/NC/RF)</td>
<td>6</td>
</tr>
<tr>
<td>ED 970</td>
<td>Teaching Event Assessment (Cr/NC)</td>
<td>3</td>
</tr>
<tr>
<td>DLE 915B</td>
<td>Teaching and Learning in the Content Area: ELD/SDAIE: Single Subjects</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Units: 39-40

Variations on the Single Subject Credential Program Three Semester Block Option
To qualify for admission, candidates must have completed (1) a baccalaureate or higher degree and (2) the Admission Standards and Qualifications for the Single Subject Credential program listed above, with two exceptions:

(1) The California Certificate of Clearance may still be pending at the time of admission to the Three Semester Block. This clearance must be granted by the State of California before the start of the second semester of this program.

(2) Students must have taken all of the CSET examination subtests for their subject area, but can be admitted to the Three Semester Block without completely passing this examination. Students must have attempted all required subtests in their subject area and passed the majority of them. Candidates who have passed the CSET completely and who desire the Three Semester Block, will be given priority placement. The examination must be completely passed prior to starting student teaching in the second semester of the program.

The following is the sequence of courses students will take in the Three Semester Block:

Semester 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TE 362</td>
<td>Fieldwork in Community Settings</td>
<td>3</td>
</tr>
<tr>
<td>TE 954</td>
<td>Humanistic and Social Aspects of Teaching: Social Foundation</td>
<td>3</td>
</tr>
<tr>
<td>DLE 915B</td>
<td>Teaching and Learning in the Content Area: ELD/SDAIE: Single Subjects</td>
<td>3</td>
</tr>
</tbody>
</table>

Semester 2

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TE 903</td>
<td>Secondary School Student Teaching Seminar (Cr/NC)</td>
<td>1</td>
</tr>
<tr>
<td>TE 914</td>
<td>Teaching and Learning in the Content Area: Secondary Methods</td>
<td>3</td>
</tr>
<tr>
<td>TE 922</td>
<td>Behavioral and Psychological Aspects of Teaching: Educational Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

Semester 3

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TE 933</td>
<td>Teaching of Reading in the Secondary School</td>
<td>3</td>
</tr>
<tr>
<td>TE 963</td>
<td>Secondary School Student Teaching I (Cr/NC/RF)</td>
<td>4</td>
</tr>
</tbody>
</table>

CPR Requirement: All candidates for the preliminary credential are required to verify current training in cardiopulmonary resuscitation (CPR). Verification of the CPR training is made through submission of a photocopy of the card issued by the training agency. While many agencies provide CPR training, verification must be made at levels identified by the American Heart Association (AHA) or the American Red Cross (ARC). Candidates pursuing training through agencies other than these will be required to verify the level of training relative to either the AHA or ARC standards either from the data provided directly on their card or on a supplementary letter on letterhead stationary from their training agency (no phone call verifications).

Single Subject Bilingual 2042 Credential (Secondary Education Grades 6 through 12): Spanish Emphasis

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TE 903</td>
<td>Secondary School Student Teaching</td>
<td>3</td>
</tr>
<tr>
<td>TE 914</td>
<td>Teaching and Learning in the Content Area: Major</td>
<td>3</td>
</tr>
<tr>
<td>TE 922</td>
<td>Behavioral and Psychological Aspects of Teaching</td>
<td>3</td>
</tr>
</tbody>
</table>

The Single Subject Bilingual (Spanish) Teaching Credential (Secondary Education) is available for students interested in teaching in a bilingual middle or 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 will pursue this credential need to specify “Single Subject Credential Bilingual” in the application for graduate admission to SDSU (Code: 00100). Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.

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 California Commission on Teacher Credentialing. Booklets containing registration forms and test information are available at http://www.csbtest.nesinc.com.

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 or through California Subject Examinations for Teachers (CSET). 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 the General Catalog. Test scores submitted for verification of subject matter competency are valid for five years from the date of the examination. Information and registration materials are available at http://www.cset.nesinc.com.

3. Prerequisite Courses. The following courses must be completed with a grade of C- or better prior to admission to the program. Candidates must have a minimum 2.67 overall or 2.75 in the last 60 semester (90 quarter) units attempted. Candidates are required to submit official transcripts from all colleges and universities attended and unofficial SDSU transcripts for GPA calculations.

4. Semester or Point Average. Candidates must have a minimum 2.67 overall or 2.75 in the last 60 semester (90 quarter) units attempted. Candidates are required to submit official transcripts from all colleges and universities attended and unofficial SDSU transcripts for GPA calculations.
5. **Letter of Recommendation.** Two professional references and one letter 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. Letter of recommendation should be from a school teacher with whom the student has worked and the others may be from faculty and administrators.

6. **Tuberculin 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 HMOs, or public health agencies.

7. **Early Field Experience.** Applicants must provide evidence of a minimum of 45 hours of experience with adolescent students in typical classroom settings within the last five years. Evidence must be documented.

8. **Oral English and Written Statement of Professional Goals and Philosophy.** Have an interview with the admissions and retention committee of the DLE Department.

9. **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. Possessors of K-12 California credentials may satisfy this requirement by submitting copies of those certificates. Candidates must submit the application directly to the California Commission on Teacher Credentialing. A copy of the application must be provided to the DLE Department.

10. **Cohort Advising Appointment.** Each applicant must meet with a faculty advisor 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 EBA-259, 619-594-6320.

11. **Language and Culture Examination.** All candidates must meet Language Proficiency and Cultural Awareness requirements for the language of emphasis to meet their specific bilingual authorization. This can be met by passing the CSET LOTE examination or earning a C (2.0) or better in DLE 415.

12. **Appeals Process.** Candidates who do not meet all the admission requirements may petition the DLE Department Admissions and Retention Committee for individual consideration; petition letters must be submitted concurrently with the application packet.

13. **Application.** Applicants must complete application procedures the semester prior to beginning the credential program. Call the department for DLE application deadline. In addition to the minimum admissions standards identified above, the DLE Department Admissions and Retention Committee may also consider qualifications such as previous teaching experience, and relevant working experience with children. Due to the number of applicants, application to the program does not ensure admission.

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**Single Subject Bilingual 2042 Program**

**Prerequisite Courses**

- DLE 515 Multilingual Education: Theory and Practice for Bilingual Teachers ............................................. 3
- ED 451 Introduction to Multicultural Education .............. 3
- SPED 450 Classroom Adaptations for Special Populations .... 2
- TE 280 Health Education for Teachers ............................. 1

**Cohort Courses**

- DLE 524 Psychological Foundations for Bilingual Teachers in Grades 7-12 .................................................. 1-4
- DLE 653 Language Development in K-12 Multilingual Classrooms ............................................................... 3
- DLE 915B Teaching and Learning in the Content Area: English Language Development/SDAIE: Single Subjects .......... 3
- DLE 933 Skills in Teaching Reading to Bilingual Secondary Students ............................................................... 3

- DLE 954 Classroom Organization for Democratic Teaching in Bilingual Classrooms ........................................ 3
- DLE 960 Professional Seminar for Bilingual Teacher Candidates (Cr/NC) ..................................................... 1-4
- DLE 963 Practicum in Secondary Bilingual Classroom (Cr/NC) ................................................................. 3-4
- DLE 964 Student Teaching for Bilingual Secondary Students II ................................................................. 8-12
- ED 970 Teaching Event Assessment (Cr/NC) .................... 3
- TE 914 Teaching and Learning in the Content Area: Major ........................................................................... 3

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**Preliminary Credential Requirements**

1. A bachelor’s degree with one of the approved single subject majors listed in the single subject bilingual teaching credential General 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 Dual Language and English Learner Education for further information about the approved programs.)

3. Major Advisor’s Recommendation. Passage of subject matter examination(s) or waiver thereof through completion of one of the approved single subject credential majors listed below with a written recommendation from the Regional advisor. Demonstrated subject matter competency through completion of approved waiver program in one of the California single subject areas, is through a combination of coursework and competency examinations, or through CSET examinations. Candidates should check with the College of Education, Office of Student Services, EBA-259, to clarify the appropriate means for satisfaction of the subject matter competency requirement.

4. Successful completion of Language Proficiency and Cultural Awareness requirements for the language of emphasis.

5. Demonstrated knowledge of principles and provisions of United States Constitution through successful completion of three- unit college level course or examination. Courses are listed in General Catalog section on “Graduation Requirements,” IV. American Institutions Requirement.

6. Passage of California Basic Educational Skills Test (CBEST).

7. Completion of an approved fifth year program (a minimum of 30 upper division or graduate-level postbaccalaureate units).

8. Demonstrated knowledge of the needs of and methods of providing educational opportunities to individuals with exceptional needs, Special Education 500.

9. Demonstrated knowledge of computer hardware, software, and applications to educational/classroom use (computer literacy).

10. Knowledge of health education in California, including substance abuse and nutrition. Teacher Education in Health Education for Teachers (1 unit) and verification of current CPR competency.


Undergraduate students in their final semester prior to obtaining a baccalaureate degree may sign up for concurrent postbaccalaureate credit as explained in the bulletin.

**Induction Program for a Clear Credential (Multiple and Single Subject)**

The induction program offers contracted teachers the opportunity to obtain a professional clear credential. The two-year program provides mentor support reflecting the candidate’s instructional context and needs, develops deeper understandings of pedagogy, advances knowledge and application of current universal access to meet the needs of all students.

Complete online classes available. Field experience in your local school setting.

**Prerequisite:** A valid SB 2042 Preliminary Multiple or Single Subject Credential or equivalent. A contract to teach at a K–12 school. Clear credential program coursework cannot be taken prior to issuance of the preliminary credential. **Optional:** Signed CL-855 required to verify employment by contracted teachers before seeking approval to complete field experience in their own classrooms.*

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*SDSU Graduate Bulletin 2017-2018*


Courses Required for the Credential (16 units)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TE 969</td>
<td>Clinical Practice for Induction</td>
<td>4</td>
</tr>
<tr>
<td>TE 969</td>
<td>Clinical Practice for Induction</td>
<td>4</td>
</tr>
<tr>
<td>TE 969</td>
<td>Clinical Practice for Induction</td>
<td>4</td>
</tr>
<tr>
<td>TE 969</td>
<td>Clinical Practice for Induction</td>
<td>4</td>
</tr>
</tbody>
</table>

*For questions regarding the program, contact the clear credential office at clearcredential@mail.sdsu.edu. For details or to apply, [http://op.sdsu.edu/education/site/clear_credential.aspx](http://op.sdsu.edu/education/site/clear_credential.aspx).

Multiple Subject and Single Subject Professional Clear Teaching Credential

The San Diego State University, College of Education, Clear Credential Program is approved by the Commission on Teacher Credentialing (CTC) and is structured around support, collaboration, university coursework, action research, and formative assessment. The year-long program offers individualized support based on the candidate's instructional context and needs, develops deeper understandings of pedagogy, and advances knowledge and application of current universal access paradigms. Throughout the program, a cycle consisting of growth plan development, Planning for instruction, Instructing, Assessing student learning, Reflection, and Application to subsequent planning and instruction (PIARA) model of formative assessment occurs, integrating university coursework with practical action research in the candidate's classroom.

This coursework cannot be taken prior to issuance of the preliminary credential.

Prerequisites: A valid SB 2042 Preliminary Multiple or Single Subject Credential or equivalent and verification by the employing school district or private school employer that an induction program is not available to the applicant.

For additional information, contact Carol Prime (prime@mail.sdsu.edu) or clearcredential@mail.sdsu.edu.

Reading and Literacy Leadership Specialist Credential

(Credential Code: 00410)

San Diego State University offers a program leading to a Reading and Literacy Leadership Specialist Credential. This credential authorizes the holder to function as a reading specialist in grades Pre-K through 12.

Requirements for Admission

1. A valid California teaching credential applicable within the range of grades Kindergarten to 12.
2. A minimum of one year of full-time K-12 teaching experience or the equivalent within the range of grades Kindergarten to 12.
3. Submission of GRE scores.
4. Admission and planning interviews with an adviser.

Core Program (25 Units)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED 690</td>
<td>Methods of Inquiry</td>
<td>3</td>
</tr>
<tr>
<td>TE 530</td>
<td>Children's/Adolescents' Literature</td>
<td>3</td>
</tr>
<tr>
<td>TE 631</td>
<td>Seminar in Language Arts</td>
<td>3</td>
</tr>
<tr>
<td>TE 633</td>
<td>Leadership in Literacy Education</td>
<td>3</td>
</tr>
<tr>
<td>TE 635</td>
<td>Assessment of Reading and Language Arts</td>
<td>3</td>
</tr>
<tr>
<td>TE 637</td>
<td>Instructional Strategies for Reading and Language Arts</td>
<td>4</td>
</tr>
<tr>
<td>TE 639</td>
<td>Literacy and Language</td>
<td>3</td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TE 640</td>
<td>Planning for Teaching and Assessment in Writing</td>
<td>3</td>
</tr>
<tr>
<td>TE 677</td>
<td>Research-Based Pedagogy for Diverse Learners</td>
<td>3</td>
</tr>
</tbody>
</table>

Additional Requirements

1. To be eligible to apply for the credential, the candidate must have a minimum of three years of full-time K-12 teaching experience within the range of grades Kindergarten to 12.
2. Satisfactory completion of a comprehensive examination covering the program coursework.

Education Specialist Credentials in Special Education

San Diego State University offers programs leading to the following Education Specialist Credentials in Special Education authorized by the California Commission on Teacher Credentialing: Mild/Moderate Disabilities, Moderate/Severe Disabilities, and Early Childhood Special Education. These credentials authorize the holders to teach students with designated disabilities in a variety of settings. These credentials require completion of Preliminary Education Specialist requirements followed by completion of the Clear Professional Induction Specialist requirements within five years of employment in an authorized setting. The department also offers the Early Childhood Special Education Certificate which authorizes holders of other specialist credentials to work with children and their families from birth through pre-kindergarten. There are some common requirements between the Education Specialist credential programs and the Master of Arts degree. Once admitted, students must maintain a GPA of 3.0 and must successfully complete all practicum experiences. Only grades of C or better will count toward a degree, a credential, or a certificate.

Standards for Admission to Preliminary Credentials

Candidates for any of the Education Specialist Credentials in Special Education must satisfy the standards and qualifications listed below and submit complete application packets online within designated application periods. Information about applications for Program Admission is available from the Office of Advising and Recruitment, EBA-259.

Completed departmental 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 any of the programs that lead to an Education Specialist Credential in Special Education. Information may be obtained from [http://www.ctcexams.nesinc.com](http://www.ctcexams.nesinc.com). Candidates are urged to take this examination as early as possible. Candidates are required to submit a scanned copy of the individual score reports.

2. Subject Matter Competence. Students must verify completion of subject matter competence with a passing score on the CSET. Multiple Subjects. Credential holders should see an adviser for clarification.

For students applying for the Specialist Credential in Early Childhood Special Education, an appropriate major such as Child Development, Developmental Psychology, or Liberal Studies is required.

3. Health Education. Knowledge of health education in California, including substance and nutrition; Teacher Education 280 – Health Education for Teachers (1 unit) and verification of current CPR competency.

4. Computer Knowledge. Demonstrated knowledge of computer hardware, software, and applications to educational/classroom use (computer literacy). Students who complete their preliminary credential at SDSU will meet this requirement with Special Education 560.

5. United States Constitution. 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 General Catalog section on "Graduation Requirements," IV. American Institutions Requirement.

6. Prerequisite Courses.
   a. Special Education 500, 501, 502, and courses applicable to the credential area selected from Special Education 524, 525, and 528.
   b. Special Education 527 (or CLAD/BCLAD credential) and Dual Language and English Learner Education 915C.

7. Grade Point Average. Candidates must have a minimum 2.67 overall or 2.75 in the last 60 semester (90 quarter) units attempted. Candidates are required to submit official transcripts from all colleges and universities attended and unofficial SDSU transcripts for GPA calculation.
8. **Tuberculin Clearance.** Evidence of a negative tuberculinosis 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 HMOs, or public health agencies.

9. **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. Possessors of K-12 California credentials may satisfy this requirement by submitting copies of those certificates. Candidates must submit live scan and personal information directly to the California Commission on Teacher Credentialing (CTC), http://www.ctc.ca.gov. This clearance must show as granted on the CTC website.

10. **Program Application.** Applicants must complete the supplementary program application available online at http://go.sdsu.edu/education/applynow.aspx.

11. **Letters of Recommendation.** Two letters of recommendation from people who know you well (not relatives), especially those who have knowledge of your work with children in school or related settings. These letters must attest to your aptitude and suitability for the teaching profession.

12. **Candidate Statement.** A candidate statement (500 word maximum) that addresses your background of experiences that have contributed to your desire to be a special education teacher as well as the personal and professional factors that you consider to be most important if one is to become an effective and caring special educator.

**Preliminary Education Specialist Credential**

1. Core courses: Special Education 505*, 553*, 560, 662**, 970, 980. Candidates are required to pass the Reading Instruction (RICA) Test.* An international or global/cultural experience is required, as defined by the Department of Special Education, prior to graduation for all preliminary credential candidates. Students must obtain approval of graduate adviser

2. Specialization courses:
   a. **Mild/Moderate Disabilities:** Teacher Education 930 (3 units); Special Education 530*, 534, 647*, 648, 657, 970A, 980A; and 970B (for part-time students).
   b. **Moderate/Severe Disabilities:** Teacher Education 930 (3 units); Special Education 526, 530, 636, 645, 647, 657, 980B; and 970B (for part-time students).
   c. **Early Childhood Special Education:** Special Education 526, 530, 635, 642A, 643B, 980D (Infant/Toddler), 980D (Preschool); and 970B (for part-time students).

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*S Not required for Early Childhood Special Education.

**Reading and Literacy Added Authorization**

**Program**

1. Core courses: Special Education 651 (3 units) and 653 (3 units)
2. Specialization elective strand: In consultation with university and school district advisors, students will take six units of 500- to 600-level or higher electives in one area or preliminary credential.
3. Knowledge of health education in California, including substance abuse and nutrition: Teacher Education 280 and certification of CPR competency or preliminary credential.
4. Demonstrated special knowledge of computer hardware, software, and applications to educational/classroom use (computer literacy). Students who complete their preliminary credential at SDSU will meet this requirement with Special Education 560 or preliminary credential.

**Reading Recovery® Teacher Leader**

The Reading Recovery® Teacher Leader training program is to prepare qualified individuals to implement reading recovery in their own districts or regions. Teacher leader candidates are selected by their districts to participate in the year-long coursework that prepares them to provide reading recovery training to teachers in their districts, based on their potential as leaders and their educational backgrounds. Each teacher leader candidate must hold a master's degree which qualifies them to teach reading recovery courses in their districts for university credit. A faculty member in the College of Education is responsible for providing coursework and supervision of teacher leader candidates.

Candidates admitted to the program include two semesters each of clinical work, theoretical foundations, and leadership courses. Teacher leaders learn how to assess young children's literacy progress and to use reading recovery teaching procedures to help the at-risk children learn to read and write. Teacher leaders examine the theoretical foundations of early literacy acquisition, reading recovery and early intervention, including theories specifically relevant to working with diverse children with reading difficulties. They study various aspects of the teacher leader role in the classroom and in established sites through apprenticeships with experienced teacher leaders in the field; explore issues of program implementation and systemic changes stemming from the implementation of reading recovery in districts and; consider implications of all of their knowledge and expertise as it directly relates to the effective training of reading recovery teachers.

Partnerships between San Diego State University and the districts that teacher leaders represent are established through the Reading Recovery® Teacher Leader training program. Subsequent to the training year, the program provides on-going support and professional development to teacher leaders they have trained.

The Reading Recovery® Teacher Leader training program at San Diego State University mirrors training at the other 25 university training centers in the United States. Reading recovery was first introduced at Ohio State University 15 years ago. Other universities that participate in the program include Purdue University, New York University, University of Connecticut, and Georgia State University. University trainers have a close network through which they meet on a regular basis to shape and update coursework based on current research.
the Master of Arts in Teaching degree program can select to complete the reading and literacy leadership specialist credential as their area of concentration.

Required courses (13 units):
- TE 530 Children's/Adolescents' Literature (3)
- TE 635 Assessment of Reading and Language Arts (3)
- TE 637 Instructional Strategies for Reading and Language Arts (4)
- TE 639 Literacy and Language (3)

OR
- TE 677 Research-Based Pedagogy for Diverse Learners (3)

Additional requirements:
To be eligible to apply for the Reading and Literacy Added Authorization from the CCTC after completion of coursework, the candidate must also satisfy the following requirements:
1. A valid California teaching credential within the range of grades Kindergarten through 12.
2. A minimum of three years of full-time K-12 teaching experience within the range of grades Kindergarten through 12.

Section V.
Certificate Programs

Behavior Analysis Certificate
(SIMS Code: 331998)
The behavior analysis certificate provides the foundational knowledge for educators, psychologists, and other interventionists to provide intervention practices based on principles of behavior analysis. The courses are approved by the Behavior Analysis Certification Board as the content sequence required prior to taking the examination.

Prerequisites for admission include a bachelor's degree from an accredited institution in child and family development, education, liberal studies, psychology, social sciences, or other helping profession with a 2.85 grade point average in the last 60 units. Students must complete 15 units and maintain a 3.0 minimum grade point average in all certificate coursework with no less than a C in any course. Courses taken in the certificate program with a grade of B or better may be applied to a master's degree with the consent of the graduate adviser.

Required courses (six units):
- SPED 553 Behavioral Strategies and Supports for Students with Disabilities (3)
- CSP 623 Ecobehavioral Assessment-Intervention (3)

OR
- Elective courses (nine units from the following):
  - SPED 500 Human Exceptionality (3)
  - SPED 510 Adapting Communication Systems for Students with Severe Disabilities (1)
  - SPED 530 Issues in Autism (3)
  - SPED 605 Advanced Behavioral and Health Supports (1)
  - SPED 681B Advanced Studies in Special Education: Moderate/Severe Disabilities and Early Childhood (3)
  - SPED 685 Single Case Research Design (3)
  - CSP 710B Professional Seminar: Ethics (3)

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. 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: Dual Language and English Learner Education 553, 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.

Cognitive Disabilities Certificate
(SIMS Code: 331981)
This certificate program is designed for current and aspiring rehabilitation counselors who are, or intend to become providers of vocational and independent living services on behalf of persons with cognitive disabilities, to include those with autistic spectrum disorders, intellectual disability, acquired brain injuries, and learning disabilities. The certificate prepares rehabilitation counselors to work in the State/Federal vocational rehabilitation system, the U.S. Department of Veteran Affairs, California Regional Centers, or other government agencies supporting persons with cognitive disabilities, nonprofit community rehabilitation provider agencies, and student disability service programs of community colleges and universities.

Prerequisites: A bachelor's degree from an accredited institution with demonstrated experience in disability-related work and/or academic coursework. Students do not need to be enrolled in the SDSU Master of Science degree in rehabilitation counseling to enroll in the certificate program.

Required courses (18 units):
- ARP 609 Seminar in Rehabilitation: Policy Developments in Cognitive Disabilities (3)
- ARP 645A Assessment in Rehabilitation (3)
- ARP 685A Medical and Psychological Aspects of Disability (3)
- ARP 687 Placement Practices with Individuals with Disabilities (3)
- ARP 744 Practicum in Rehabilitation (3) Cr/NC
- ARP 745 Internship in Rehabilitation (3) Cr/NC

ARP 609 and 744 are focused on cognitive disabilities and taught in alternating spring semesters so that each course is offered once every two years. The remaining required courses are offered annually. Students will complete 225 hours of internship in ARP 745 by taking one three-unit course (fall or spring semesters). The internship will be completed in a rehabilitation agency supporting persons with cognitive disabilities, with at least half of the student's clinical experience being directed toward individuals with cognitive disabilities.

Students must complete 18 units with a 3.0 (B) grade point average. Students in the certificate program will complete 12 units of formal coursework, three units of practicum, and three units of internship as described unless the program adviser approves alternative courses. Major assignments in all courses will focus on rehabilitation and cognitive disabilities, and the culminating assignment will be a comprehensive portfolio of work completed during the certificate.
Only three units of coursework with a grade of C will count towards the certificate. A maximum of three units of coursework can be repeated.

No new students are being admitted to this program. Contact the Department of Special Education.
The program director will meet with each certificate student to design an individualized program of study based on the student's educational background and professional experience. Students may concurrently enroll in the certificate program and Master of Science degree in rehabilitation counseling. For further information call 619-594-6921.

Community College Teaching Certificate
(SIMS Code: 330302)

The purpose of this certificate program is to prepare students to teach in community colleges within the transfer, developmental, vocational, and adult education areas. The program provides students with experiences in curriculum development and evaluation, instructional techniques, methods to meet adult learning needs, and a practical internship in a local community college.

This is an advanced academic certificate at the post-baccalaureate level. Admission requirements are a bachelor's degree from a regionally accredited institution of higher education, with at least a 2.85 GPA in the last 60 units.

Students must complete the following courses with a minimum grade of B in each course and Cr in ARP 760. Courses in the certificate program may be applied to a master's degree if applicable.

- ARP 611 Program Development and Evaluation in Postsecondary Education (3)
- ARP 631 Seminar in Teaching in Postsecondary Education (3)
- ARP 760 Internship in Postsecondary Educational Leadership (3) Cr/NC/RP

For further information, contact the Department of Administration, Rehabilitation and Postsecondary Education (http://www.interwork.sdsu.edu/arpe).

Developing Gifted Potential Certificate
(SIMS Code: 330305)

The purpose of this certificate program is to provide teachers and other education professionals with specialized preparation for supporting talent development and providing effective educational services to gifted and talented individuals in a diverse society. The certificate is designed to provide knowledge and skills to (a) encourage the development and expression of high potential, particularly among students currently underrepresented in formal programs for the gifted and (b) provide effective instruction to individuals formally identified as gifted and talented. Hence the program is designed for professionals working in regular and special classrooms settings.

Successful applicants must have completed a bachelor's degree from an accredited institution. A minimum grade point average of 3.0 must be maintained in certificate coursework with no less than a grade of C in any course.

Required courses (15 units): Special Education 644, 649, 771, and six units selected with approval of adviser. All courses completed with a grade of B or better are applicable to the Master of Arts degree in Education with a Concentration in Special Education and a Specialization in Gifted. For further information, contact the Department of Special Education.

Early Childhood Transdisciplinary Education and Mental Health (EC-TEaMH) Certificate
(SIMS Code: 330308)

The certificate program in Early Childhood Transdisciplinary Education and Mental Health (EC-TEaMH) is an interdisciplinary program focusing on professional preparation and skills enhancement of early childhood educators who work with young children who demonstrate socio-emotional and behavioral problems and their parents.

Fifteen program units are required to earn the certificate in Early Childhood Transdisciplinary Education and Mental Health (EC-TEaMH). Twelve units of seminar courses addressing core knowledge foundations for early childhood mental health and three units of supervised practicum/field experience. Courses in the certificate program may be applied to the master's degree in child development if applicable.

Prerequisites for admission:
1. Successful completion of a bachelor's degree in a field related to child development, human development, psychology, school counseling, social services, or social work from an accredited institution, and relevant work experience in the early childhood education field.
2. Successful completion of the application and interview process.
3. Coursework relating to children with special needs, early years of development, family functioning and parent-child relationships, parenting, and theories in socio-emotional development. If students' undergraduate preparation is deemed insufficient, students will be required to complete specified courses determined by the certificate program's adviser.
4. Recommendation of employer and/or director of certificate program.

Course requirements (15 units). The EC-TEaMH certificate is modeled following the delivery of Infant-Family and Early Mental Health Services Revised Training Guidelines and Personnel Competencies proposed by the California's Infant, Preschool and Family Mental Health Initiative (Workforce 2010). It includes two main areas: knowledge and experience. The knowledge base is comprised of four foundation classes and a practicum courses that includes experience in early childhood setting and programs accompanied by Reflective Practice Facilitation (total of 120 hours of supervised practicum).

Students must complete the course requirements with a minimum 3.0 (B) grade point average.

Knowledge Area (12 units):
- CFD 580 Observation and Assessment of Young Children's Environments and Relationships (3)
- CFD 670B Seminar in Human Development Theories- Intervention and Prevention Lifespan Approach (3)
- CFD 671A Seminar in Supporting Early Childhood Mental Health (3)
- SPED 676 Advanced Applied Behavior Analysis (3)

Experience Area – Field Experience/Practicum (3 units):
- CFD 697A Advanced Field Experiences A (3) Cr/NC (Three units; minimum of 120 hours of practicum and minimum of 24 hours of group reflective supervision).

For further information, contact the program adviser.

Early Childhood Special Education Certificate
(SIMS Code: 330301)

The Early Childhood Special Education Certificate is authorized by the California Commission on Teacher Credentialing. It is designed for individuals who have completed Preliminary Education Specialist coursework in Mild/Moderate or Moderate/Severe disabilities. It extends authorization from birth through 22. Individuals

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credentialed in other areas such as Deaf and Hard-of-Hearing and Visual Impairments are authorized to serve birth through 22, but may add the certificate for professional growth reasons if desired.

1. Prerequisite: Completion of preliminary coursework in one of the Education Specialist credentials and background in early childhood development with focus on infants, toddlers, and preschoolers.

2. Certificate coursework: Special Education 526, 528, 635, 643A, 643B, 980D.

**Educational Facility Planning (CEFPI/SDSU)**
*(Offered through the College of Extended Studies)*
*(SIMS Code: 331933)*

The advanced certificate program in Educational Facility Planning (CEFPI/SDSU) provides a comprehensive course of study grounded in the knowledge and skills central to the planning, designing, building, and maintaining of learner-centered school facilities. The certificate includes appropriate benchmarks for evaluation and instructional delivery that can be accessed electronically worldwide. The goal of the program is to provide certificate candidates advance training in comprehensive educational facilities planning, aimed at producing safe and supportive, learner-centered school facilities that maximize learning opportunities for all students, staff, and the community at large.

Admission Requirement: Candidates will be admitted as matriculated students into the certificate program through the College of Extended Studies, Special Sessions.

**Required Courses:**
- EDL 620 Seminar in Educational Facility Community Engagement and Master Planning (2)
- EDL 621 Seminar in Designing Schools to Support Diverse Learning Style Needs (2)
- EDL 622 Seminar in Educational Facility Pre-Design Planning (2)
- EDL 623 Seminar in Educational Facility Design Process (2)
- EDL 624 Seminar in Educational Facility Implementation (2)
- EDL 625 Seminar in Educational Facility Assessment and Maintenance (2)

Students must maintain a minimum grade point average of 3.0 in all certificate coursework with no less than a C in any course. Only two units of coursework with a grade of C will count toward the certificate. A maximum of two units of coursework can be repeated. Courses in the certificate program may be applied to a master's degree if applicable. A maximum of eight units may be transferred to a master's degree program with consent of the graduate adviser.

Additional fees are associated with this program. Information can be obtained from the program adviser.

**English Language Development for Academic Literacy Certificate**
*(SIMS Code: 331996)*

Available on-site as an advanced certificate concurrent with a master's degree at San Diego State University or online via the College of Extended Studies, this certificate program provides K-16 teachers and other education professionals with specialized preparation for developing academic literacy assessment, curriculum, and teaching methods specifically designed to meet the needs of English Language Learners (ELLs). The program provides further development in theory and methods for development, evaluation, and implementation of (a) appropriate language assessment, (b) effective instruction to ELLs specific to developing academic literacy in English across proficiency levels, and (c) culturally responsive curriculum and teaching strategies. The program is designed for professionals working in programs or classrooms with diverse language learners.

Successful applicants must have completed a bachelor's degree from an accredited institution and hold a current teaching credential or a credential in another relevant educational field, such as school counseling or administration. A minimum grade point average of 3.0 must be maintained in certificate coursework with no less than a grade of C in any course.

**Required Courses:**
- EDL 620 Seminar in Educational Facility Community Engagement and Master Planning (2)
- EDL 621 Seminar in Designing Schools to Support Diverse Learning Style Needs (2)
- EDL 622 Seminar in Educational Facility Pre-Design Planning (2)
- EDL 623 Seminar in Educational Facility Design Process (2)
- EDL 624 Seminar in Educational Facility Implementation (2)
- EDL 625 Seminar in Educational Facility Assessment and Maintenance (2)

Students must maintain a minimum grade point average of 3.0 in all certificate coursework with no less than a C in any course. Only three units of coursework with a grade of C will count toward the certificate. A maximum of two units of coursework can be repeated. Courses in the certificate program may be applied to a master's degree if applicable. A maximum of eight units may be transferred to a master's degree program with consent of the graduate adviser.

Additional fees are associated with this program. Information can be obtained from the program adviser.

**Linked Learning Certificate**
*(Offered through the College of Extended Studies)*
*(SIMS Code: 332001)*

The purpose of this certificate is to provide practicing teachers and other education professionals with in-depth study of the field of linked learning, one of California's primary high school reform strategies for improving students' learning outcomes. Professionals who work in linked learning pathway programs must have all of the skills and abilities needed by educators in traditional schools and classrooms, and more. This certificate program is designed to provide the unique knowledge and skills essential to a linked learning approach, including its signature pedagogy: career-themed, project-based instruction; work-based learning both within and outside of school; and support services to ensure the success of all students.

Successful applicants to this certificate must have completed a bachelor's degree from an accredited institution and hold a current teaching credential or a credential in another relevant educational field, such as school counseling or administration. A minimum grade point average of 3.0 must be maintained in certificate coursework with no less than a grade of C in any course.

This graduate-level certificate is designed for education professionals who are currently working in linked learning pathway programs or who would like to know more about this transformative approach to secondary education.

For further information, contact 619-594-1366.

**Required courses (15 units):**
- TE 680 Foundations of Linked Learning (3)
- TE 681 Linked Learning Pathway Design and Delivery (3)
- TE 682 Integrated Curriculum Design, Implementation, and Assessment (3)
- TE 683 Work-based Learning: Core Linked Learning Instructional Strategy (3)
- TE 684 Rethinking Teacher Roles in Linked Learning Pathways (3)

**Mental Health Recovery and Trauma Informed Care Certificate**
*(SIMS Code: 331008)*

The purpose of this certificate is to educate a national and international body of mental health professionals and para-professionals in contemporary mental practices that focus on mental health recovery and trauma-informed care. The certificate draws upon integrated recovery and strength-based approaches and emphasizes the role of trauma-informed treatment models in understanding the causes of mental ill-health and practices to address human suffering caused by environmental trauma. This certificate is offered in an online format to cater to health-care professionals residing in locations all over the world.

Prerequisites: A bachelor’s degree from an accredited institution with demonstrated experience in serving people requiring mental health services.

**Required courses (12 units):**
- CSP 660A Professional Issues in Mental Health Practice: California Law and Ethics for Marriage and Family Therapy (3)
- CSP 618 Mental Health Recovery and the DSM: A Social Justice Perspective (3)
- CSP 650 Trauma and Crisis Counseling in Multicultural Community Context (3)
- CSP 762 Prevention, Crisis Intervention, and Conflict Resolution in Schools (3)

Substituted elective(s) may be taken with consent of the coordinator.

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 the certificate. A maximum of three units of coursework may be repeated. Courses in the certificate program may be applied to a master's degree if applicable.

For further information, contact the program adviser, Dr. Gerald Monk, 619-594-6109.

**Psychiatric Rehabilitation Certificate**  
(SIMS Code: 330320)

The purpose of the certificate is to educate rehabilitation counselors to provide effective vocational rehabilitation interventions that will result in greater workforce participation and integration of individuals who experience psychiatric disabilities. This academic certificate is designed for current and aspiring rehabilitation counselors in a variety of rehabilitation settings including public and private mental health programs, supported and competitive employment programs, postsecondary education (community college, university), out-patient hospital programs, state departments of rehabilitation, private rehabilitation agencies, or other projects funded through private or government resources that serve individuals with psychiatric disabilities.

Prerequisites: A bachelor’s degree from an accredited institution with demonstrated experience in disability-related work and/or academic coursework.

**Required courses (15 units):**
- ARP 611 Seminar in Best Practices in Psychiatric Rehabilitation (3)
- ARP 608 Seminar in Principles of Psychiatric Rehabilitation (3)
- ARP 645A Assessment in Rehabilitation (3)
- ARP 687 Placement Practices with Individuals with Disabilities (3)
- ARP 745 Internship in Rehabilitation (3) Cr/NC

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 the certificate. A maximum of three units of coursework can be repeated. Courses in the certificate program may be applied to a master’s degree if applicable.

For further information, contact the program adviser, Dr. Marjorie F. Olney, 619-594-6883.

**Rehabilitation Administration Certificate**  
(SIMS Code: 330201)

This certificate program provides the student with administrative knowledge and skills to develop and supervise rehabilitation programs and services, in collaboration with consumers, in a variety of organizational settings. This academic certificate is designed for individuals who currently function or aspire to function as program coordinators and administrators in state rehabilitation agencies, community rehabilitation programs, disability management programs, postsecondary education organizations, and other programs and/or organizations involved in serving consumers with disabilities.

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 organization or program. The certificate is intended to focus on diversity among consumer populations and service delivery systems within the student's area of career interest. Unique focus areas such as disability management, tribal rehabilitation or deafness, and hard-of-hearing programs are available at certain times. A master’s degree in rehabilitation counseling, as well as leadership experience in rehabilitation is strongly encouraged. Relevant career or academic training experience may be substituted in lieu of the above admission criteria at the discretion of the program director. A bachelor’s degree is required.

This 21-unit certificate includes the following courses:
- ARP 710A Seminar in Rehabilitation (3)
- ARP 745 Internship in Rehabilitation (3-9) Cr/NC

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 (2-6)
- ARP 710B Seminar in Rehabilitation (3)

**Rehabilitation Counseling Certificate**  
(SIMS Code: 330203)

The Advanced Certificate in Rehabilitation Counseling is designed for current and aspiring rehabilitation counselors who are, or intend to become, holders of the certified rehabilitation counselor credential, per Category R established by the Commission on Rehabilitation Counselor Certification. The advanced certificate prepares holders to work in the California Department of Rehabilitation and other state vocational rehabilitation agencies, the United States Department of Veteran Affairs, California Regional Centers, or other government agencies supporting persons with disabilities, nonprofit community rehabilitation provider agencies, and student disability service programs in community colleges and universities.

Prerequisites: Applicants must possess a bachelor’s degree and master’s, specialist, or doctoral degree in one of 13 different majors from an accredited institution with demonstrated experience in disability-related work and/or academic coursework. Qualifying majors include: behavioral health; behavioral science; disability studies; human relations; human services; marriage and family therapy; occupational therapy; psychology; psychometrics; rehabilitation; social work; special education; vocational assessment/evaluation.

Students do not need to be in the SDSU Master of Science degree in Rehabilitation Counseling to register in the certificate program.

**Required courses (21 units):**
- ARP 615 Seminar in Multicultural Dimensions in Rehabilitation Counseling (3)
- ARP 645A Assessment in Rehabilitation (3)
- ARP 660 Theory and Process of Counseling in Rehabilitation (3)
- ARP 684 Rehabilitation Foundations (3)
- ARP 685A OR ARP 685B Medical and Psychological Aspects of Disability (3)
- ARP 687 Placement Practices with Individuals with Disabilities (3)
- ARP 740 Advanced Seminar in Administration, Rehabilitation and Postsecondary Education (3)

Electives: If one or more of the required courses has been completed, substitute elective(s) can be taken with consent of the coordinator.

Students must complete the course requirements with a 3.0 (B) grade point average. Three units of coursework with a grade of “C” is applicable to the certificate program. Maximum three units of coursework can be repeated.

Students may be concurrently registered in the Advanced Certificate in Rehabilitation Counseling and the Master of Science degree in Rehabilitation Counseling. An individualized program of study based on the student’s educational background and professional experience will be designed with the coordinator.

For further information, contact the program coordinator at 619-594-6921.
Supported Employment and Transition Specialist Certificate  
(SIMS Code: 337501)

This certificate prepares specialists who develop and implement programs in supported employment and adult community living for youth and adults with disabilities. Students must complete 21 units with a 3.0 (B) grade point average. Students are able to develop competencies in instructional interventions, living options, community networking, and career development.

Prerequisites: A bachelor's degree from an accredited institution with a grade point average of at least 2.75 (when A equals 4.0) in the last 60 semester (90 quarter) units attempted. Introductory disability coursework and experience.

Required courses (9 units)
- SPED 657 Facilitating Transition Across Environments in Special Education (3)
- ARP 684 Rehabilitation Foundations (3)
- ARP 687 Placement Practices with Individuals with Disabilities (3)
- SPED 771 Directed Internship: Special Education (3) Cr/NC OR
- ARP 743 Fieldwork in Rehabilitation (3) Cr/NC OR
- ARP 745 Internship in Rehabilitation (3-6) Cr/NC OR
- CSP 730 Fieldwork in Counseling (3) Cr/NC

To complete the certificate, students must select 12 units of approved coursework in Administration, Rehabilitation and Postsecondary Education; counseling and school psychology; or special education. Dr. Caren L. Sax, certificate program adviser in the Department of Administration, Rehabilitation and Postsecondary Education, meets with each certificate student to design an individualized program of study based on the student's educational background and professional experience. Students may enroll in certificate program and master's degree program concurrently.

Workforce Education and Lifelong Learning Certificate  
(SIMS Code: 335601)

The certificate offers advanced study and field-based research opportunities for educators and human service personnel interested in assuming leadership roles in the development of education and training programs for non-college bound youth and adults. Employment opportunities include positions as training specialists, instructional developers, program administrators, and instructors in community colleges, adult education programs, and job training programs.

Improving the knowledge and skills of families and workers is one of the most important challenges facing American education. Economists note that even if school reform could be rapidly accomplished, it would have minimal influence on productivity, literacy, or quality of life in the workplace during the next 20 years because out-of-school youth and adults are not subject to school reform, and they will constitute the vast majority of the American workforce well into this century.

Successful applicants must have completed a bachelor's degree from an accredited institution and demonstrate a record of excellence in working with youth or adults in schools, agencies, or employer-sponsored education and training programs. A minimum grade point average of 3.0 must be maintained in certificate coursework.

Required courses (9 units)
- LDT 544 Instructional Design (3)
- ARP 631 Seminar in Teaching in Postsecondary Education (3)
- ARP 730 Seminar in Adult Learning (3)

Electives: Six units selected with approval of the certificate program director. For further information, please contact the graduate adviser in the Department of Administration, Rehabilitation and Postsecondary Education.

Courses Acceptable for Master's and Doctoral Degree Programs in Education (ED)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

GRADUATE COURSES

NOTE: Twelve units of professional education are prerequisite for enrollment in all graduate courses.

ED 690. Methods of Inquiry (3)
Procedures for gathering, analyzing, and synthesizing information; reviewing the literature; designing studies. Section selection to be made with department graduate adviser.

ED 696. Selected Topics in Community Influences on Learning and Curriculum Planning (1-3)
Prerequisite: Teaching experience.

ED 791A. Evaluation Techniques (3)
Prerequisites: Education 690 and advancement to candidacy for the master's degree.

ED 791B. Practicum: Evaluation (1-3)
Prerequisites: Education 791A and advancement to candidacy for the Master of Arts degree in education. Supervised experience in conducting a program or product evaluation, strategy selection, procedures, reporting methods, culminating in a written project.

ED 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.

ED 797. Research (1-3) Cr/NC/RP
Prerequisites: Education 690 and advancement to candidacy for the master's degree.

ED 799A-799B. Seminar (3-3)
Prerequisites: Education 690 and advancement to candidacy for the Master of Arts degree in education.Preparation of a project or thesis for the master's degree.

ED 799A. Thesis (3) Cr/NC/RP
Prerequisites: An officially appointed thesis committee and advancement to candidacy for the master's degree.

ED 799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of RP. Registration required in any semester or term following assignment of RP 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.

ED 799C. Comprehensive Examination Extension (0) Cr/NC
Prerequisite: Completion or concurrent enrollment in degree program courses. Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.
DOCTORAL COURSES

ED 801. Seminar on Social and Cultural Foundations of Multicultural Education (3-4)
Prerequisites: 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 of multicultural education and human social behavior in pluralistic societies.

ED 804. English Learner Education: Models, Current Research, and Policy Trends (3-4)
Prerequisites: A background in sociolinguistics or social anthropology and admission to the doctoral program or consent of program director.

Analysis of existing models of English learner education and processes for educational leadership for designing, analyzing or researching policy, curriculum or programs, to meet diverse linguistic and cultural needs of students in current socio-political contexts.

ED 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.

ED 808. Academic Research and Publishing in Education (3)
Prerequisite: Completion of a minimum of 12 units in a College of Education doctoral program.

Development, writing, and submission of an article to a juried journal in education. Argument development, creation of abstracts, and identification of theoretical frameworks.

ED 810. Seminar in Curriculum Development and Implementation (3)
Prerequisite: Admission to doctoral program.

Curriculum development and implementation to include culturally diverse contexts with emphasis on reflective implementation and critical analysis of commercial and site-based curriculum.

ED 814. Seminar in Curricular Change Processes (3)
Prerequisite: Education 810.

Curriculum change processes in educational organizations. Process of planning change and elements necessary for implementing and managing curriculum change to include diverse cultural contexts.

ED 815. Re-Thinking Leadership (3)
Prerequisite: Admission to educational leadership doctoral program.

Concepts of individual and group leadership in educational environments. Practices and policies of effective management and leadership; ethical and emerging trends in leadership styles.

ED 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.

ED 822. Seminar in Analysis and Issues in Race and Ethnic Relations (3)
Prerequisite: Education 801.

Analysis of race and ethnic relations in education from a theoretical, research, and action based perspective. Conceptual framework of race, ethnicity, and prejudice theory needed for policies and strategies of reform in education to address unequal race relations.

ED 823. Seminar in Action Oriented Policy Research in Multicultural Contexts (3)
Prerequisite: Education 801.

Multidimensional ways to resolve social problems. Development of community based issues, analysis, research, and implementation.

ED 824. Seminar in Institutional Change in Multicultural Contexts (3)
Prerequisite: Education 801.

Sociocultural dynamics of urban context, approaches for assessing institutional effectiveness, and strategies for developing and implementing educational innovations. Conceptual understanding of educational and social innovations that address multicultural context of school communities.

ED 827. Seminar in Communication and Cognition in Education (3)
Prerequisite: Admission to doctoral program.

Roots of communication in a diverse society. Relationship between cognition and communication including mass media, as well as cross-cultural, and personal modes.

ED 836. Research and Writing Support (2-3) Cr/NC
Prerequisite: Admission to educational leadership doctoral program.

Identification and clarification of a researchable problem in PreK-12 and community college leadership; analysis of related literature, investigation of possible methodology; application to Institutional Review Board. Maximum credit nine units.

ED 840. Seminar in Leadership in a Diverse Society (3)
Prerequisite: Admission to educational leadership doctoral program.

Theories and practices for achieving schools informed by and built around participation of diverse communities and cultures. Intersection of leadership with socio-historical, socio-cultural, and social justice theories.

ED 850. Seminar in Quantitative Methods of Inquiry (3)
Prerequisites: A master’s level course in research methods and admission to doctoral program.

Inquiry and empirical research in educational settings within public schools, postsecondary institutions, and public and private sector educational organizations.

ED 851. Seminar in Qualitative Methods of Inquiry (3)
Prerequisites: A master’s level course in research methods and admission to doctoral program.

Theory and methods of qualitative research and evaluation. Computer applications in qualitative research. Match methodology to research settings in education; design a research or evaluation proposal; collect and analyze data; and present results of qualitative study.

ED 852. Seminar in Advanced Qualitative Methods of Inquiry (3)
Prerequisite: Education 851.

Quantitative methods to include weighting, missing value analysis, mean-based procedures, prediction modeling, and causal modeling.

ED 853. Seminar in Advanced Qualitative Methods of Inquiry (3)
Prerequisite: Education 851.

Qualitative procedures to include advanced observation, focus groups, visual ethnography, and case study research.

ED 855. Seminar in Leadership for Developing Educational Systems (3)
Prerequisite: Admission to educational leadership doctoral program.

Skills and processes to lead the development of educational systems. Development of educational systems into learning organizations through organizational communications, adult learning, and professional development.

ED 860. Seminar in Leadership and Educational Change (3)
Prerequisite: Admission to educational leadership doctoral program.

Complexities of educational change. Models of organizational change and specific leadership skills and strategies; action plans for educational leadership challenges.
ED 885. Seminar in Educational Program Planning and Evaluation (3)
Prerequisite: Admission to educational leadership doctoral program.
Effective monitoring of and evaluating systems for educational program improvement and policymaking.
ED 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.
ED 897. Doctoral Research (1-15) Cr/NC/RP
Prerequisite: Admission to the doctoral program.
Independent investigation in the general field of the dissertation.
ED 899. Doctoral Dissertation (3-15) Cr/NC/RP
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.

CREDENTIAL COURSES
ED 970. Teaching Event Assessment (3) Cr/NC
Prerequisite: Admission to teacher education or dual language and English learner education multiple or single subject credential program.
Tasks required for performance assessment teaching event: context of learning, planning instruction and assessment, instructing students and supporting learning, assessing student learning, and reflecting on teaching and learning.
ED 997. Special Topics in Education (0.5-6)
(Offered only in the College of Extended Studies)
Prerequisite: Consent of instructor.
Designed to meet the needs of teachers who wish to develop or continue the study of a current topic. May be repeated with new content.
Administration, Rehabilitation and Postsecondary Education

In the College of Education

Faculty
Caren L. Sax, Ed.D., Professor of Administration, Rehabilitation and Postsecondary Education, Chair of Department (Graduate Adviser)
Bobbie J. Atkins, Ph.D., Professor of Administration, Rehabilitation and Postsecondary Education, Emeritus
Marilee J. Bresciani Ludvik, Ph.D., Professor of Administration, Rehabilitation and Postsecondary Education
Charles E. Degeneffe, Ph.D., Professor of Administration, Rehabilitation and Postsecondary Education (Graduate Adviser)
Nan Zhang Hampton, Ph.D., Professor of Administration, Rehabilitation and Postsecondary Education
Frank Harris, III, Ed.D., Professor of Administration, Rehabilitation and Postsecondary Education
L. Ron Jacobs, Ph.D., Professor of Administration, Rehabilitation and Postsecondary Education, Emeritus [Senate Distinguished Professor]
Fred R. McFarlane, Ph.D., Professor of Administration, Rehabilitation and Postsecondary Education, Emeritus
Ann I. Morey, Ph.D., Distinguished Research Professor of Administration, Rehabilitation and Postsecondary Education, Emeritus
Marjorie F. Olney, Ph.D., Professor of Administration, Rehabilitation and Postsecondary Education
William E. Piland, Ed.D., Professor of Administration, Rehabilitation and Postsecondary Education, Emeritus
Larry P. Stevens, Ed.D., Professor of Administration, Rehabilitation and Postsecondary Education, Emeritus
J. Luke Wood, Ph.D., Associate Professor of Administration, Rehabilitation and Postsecondary Education, Director of Ed.D. in Educational Leadership with concentration in Community College/Postsecondary Education (Graduate Adviser)
Felisha Herrera Villareal, Ph.D., Assistant Professor of Administration, Rehabilitation and Postsecondary Education
Mark S. Tucker, Ph.D., Assistant Professor of Administration, Rehabilitation and Postsecondary Education
Marissa Vasquez-Urias, Ed.D., Assistant Professor of Administration, Rehabilitation and Postsecondary Education
Wendy S. Bracken, Ed.D., Lecturer in Administration, Rehabilitation and Postsecondary Education (Graduate Adviser)
Lisa Gates, Ph.D., Lecturer in Administration, Rehabilitation and Postsecondary Education (Graduate Adviser)

Courses Acceptable for Master's and Doctoral Degree Programs in Education (ARP)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

ARP 568. Adult and Vocational Education in Contemporary Society (3)
Prerequisite: Upper division standing. Contemporary adult and vocational education in the U.S. Learning opportunities and environments, instructional delivery systems, and adult learning models.

ARP 596. Topics in Administration, Rehabilitation and Postsecondary Education (1-3)
Selected topics in Administration, Rehabilitation and Postsecondary Education. 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

GRADUATE COURSES

ARP 601. Seminar in Best Practices in Psychiatric Rehabilitation (3)
Prerequisite: Bachelor's degree. Evidence-based practices in psychiatric rehabilitation. Community experiences, training in counseling, and guest lectures by local psychiatric rehabilitation experts.

ARP 607. Applications of Rehabilitation Technology (3)
Prerequisite: Admission to rehabilitation counseling program or consent of instructor. Provide rehabilitation professionals with knowledge and skills to assess assistive technology needs of individuals with disabilities and match those needs with appropriate adaptations, equipment, and/or resources to expand employment and related quality of life opportunities.

ARP 608. Seminar in Principles of Psychiatric Rehabilitation (3)
Prerequisite: Bachelor's degree. Recovery model of mental health to include mental illnesses, treatments, assessment, historical aspects, neurology, protection, and advocacy.

ARP 609. Seminar in Rehabilitation: Policy Developments in Cognitive Disabilities (3)
Prerequisite: Admission to graduate program in rehabilitation counseling or Cognitive Disabilities certificate program. Working with persons with intellectual disabilities, autism spectrum disorders, brain injuries, and learning disabilities. Impact of these factors and how to work effectively as clinicians, administrators, and policy makers.

ARP 610. Educational Leadership (3)
Concepts and techniques of leadership, analysis of the factors and practice of individual and group leadership as applied to educational and related environments.
ARP 611. Program Development and Evaluation in Postsecondary Education (3)
Prerequisite: Consent of instructor.
Processes of program development, change, improvement and evaluation for postsecondary education. Covers instructional programs, curriculum development, and student services programming. Includes designing instructional strategies to meet student learning needs.

ARP 615. Seminar in Multicultural Dimensions in Rehabilitation Counseling (3)
Prerequisite: Admission to graduate program in rehabilitation counseling.
Issues, insights, and techniques for improving effectiveness in working with culturally diverse individuals with disabilities and their families. Focuses on insuring culturally appropriate and relevant rehabilitation services including full community integration.

ARP 620. Student Affairs in Higher Education (3)
Historical roots, diversity of institutions and students; philosophical foundations of the field, guiding values, key legal principles and theoretical bases; functional areas within student affairs, their evolution, purpose, professional associations, standards, and current issues.

ARP 621. Theoretical Foundations of Student Affairs (3)
Prerequisite: Consent of instructor.
Major theoretical foundations of student affairs, including student personnel point of view, student development, and student learning imperative.

ARP 622. Communication and Group Process in Student Affairs Leadership (3)
Prerequisite: Consent of instructor.
Four major domains of communication and leadership: interpersonal, intrapersonal, small group, and organizational dynamics. Addresses assessment of techniques and intervention strategies for each domain.

ARP 623. Seminar in Critical Leadership Issues in Student Affairs (3)
Prerequisite: Consent of instructor.
Current topics and issues critical to effective leadership in student affairs, academic mission of postsecondary education and creating a supportive learning environment for students.

ARP 631. Seminar in Teaching in Postsecondary Education (3)
Prerequisite: Consent of instructor.
Teaching process in postsecondary education addressing syllabus construction, lesson planning, using technology in teaching, and infusing multicultural education into courses. Assessing student learning through authentic evaluation techniques.

ARP 645A-645B. Assessment in Rehabilitation (3-3)
Prerequisite: Consent of instructor.
Rehabilitation assessment, labor market information, and career planning implications. Current assessment approaches, counseling, and career theories related to individuals with disabilities.

ARP 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, self-directed groups, organizational problem solving and team-building groups in rehabilitation.

ARP 660. Theory and Process of Counseling in Rehabilitation (3)
Prerequisite: Consent of instructor.
Counseling theories, approaches to and techniques for counseling, and research concerning counseling effectiveness.

ARP 680. Seminar in Administration, Rehabilitation and Postsecondary Education (2-6)
Prerequisite: Consent of instructor.
Study of administration, rehabilitation, or postsecondary education in a specialized field, such as a postsecondary institution, and subject fields, 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.

ARP 684. Rehabilitation Foundations (3)
Background and legislation related to vocational rehabilitation, consumer services, role and function of rehabilitation counselor as a professional. Orientation to community rehabilitation agencies.

ARP 685A-685B. Medical and Psychological Aspects of Disability (3-3)
Prerequisite: Open to rehabilitation graduate students and practitioners.
Interface of the individual and the environment covering disabilities from the perspective of each disability viewed in terms of functional capacities and rehabilitative services needed.

ARP 687. Placement Practices with Individuals with Disabilities (3)
Prerequisite: Admission to the graduate program in rehabilitation counseling.
Determination of employment and community integration needs of individuals with disabilities. Theories and techniques are presented through case study methods. Strategies focus on continuous surveys and readings focus on employment needs and opportunities for individuals with disabilities.

ARP 696. Advanced Topics in Administration, Rehabilitation and Postsecondary Education (1-3)
Prerequisite: Twelve units in Administration, Rehabilitation and Postsecondary Education. May be repeated with new content. See Class Schedule for specific content. Credit for 696 and 698 applicable to a master’s degree with approval of the graduate adviser.

ARP 710A-710B. Seminar in Rehabilitation (3-3)
Prerequisite: Completion of at least 24 units leading to Master of Science in rehabilitation counseling or enrollment in Rehabilitation Administration Certificate.
Selected topics with emphasis in research in rehabilitation counseling and/or administration. See Class Schedule for specific content.

ARP 708. Human Development and Disability (3)
Prerequisite: Consent of instructor.
Developmental theories with implications of living with a disability. Ecological approach to human growth and development across the lifespan. Psychological, social, and spiritual aspects of individual and family response to disability and chronic illness throughout the lifespan.

ARP 720. Human Resource Development in Postsecondary Education (3)
Prerequisite: Consent of instructor.
Human resource development 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 programs.

ARP 730. Seminar in Adult Learning (3)
Prerequisite: Consent of instructor.
Patterns and implications of life-long learning. Emphasizes adult learning principles and styles, effects of adult development changes on learning, and teaching techniques in adult education programs.

ARP 740. Advanced Seminar in Administration, Rehabilitation and Postsecondary Education (3)
Prerequisite: Consent of instructor.
Study of a selected area in 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.

ARP 743. Fieldwork in Rehabilitation (3-6) Cr/NC
Prerequisite: Admission to graduate program in rehabilitation counseling.
Orientation to the rehabilitation process including organizational goals, operating strategies, responsibilities and ethics, employee role expectations in partnership with consumers and service providers. Maximum credit six units applicable to a Master of Science degree in rehabilitation counseling.

ARP 744. Practicum in Rehabilitation (3-12) Cr/NC
Prerequisite: Admission to graduate program in rehabilitation counseling.
Clinical supervision within rehabilitation systems as it relates to outreach and referral, career development, counseling, and caseload management. Maximum credit 12 units applicable to a Master of Science degree in rehabilitation counseling.
ARP 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 or enrollment in the Rehabilitation Administration Certificate.

ARP 747. Educational Leadership in a Diverse Society (3)  
Prerequisite: Consent of instructor.  
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.

ARP 755. Governance and Policy Development in Postsecondary and Disability Systems (3)  
Prerequisite: Consent of instructor.  
Development and examination of relevant policy and impact of politics in governance and administration in postsecondary and disability-related systems; control functions of federal, state, and local agencies; influence of lay citizens and special interest groups; roles of judiciary, employee organizations and students.

ARP 760. Internship in Postsecondary Educational Leadership (1-6) Cr/NC/RP  
Prerequisite: Consent of instructor.  
Internship for prospective educational leaders. Released time may be required. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master’s degree.

ARP 798. Special Study (1-6) Cr/NC/RP  
Prerequisites: Consent of instructor; to be arranged with department chair and instructor. May involve fieldwork.  
Individual study. Maximum credit six units applicable to a master’s degree.

DOCTORAL COURSES

ARP 801. Seminar in Community College History and Development (3)  
Prerequisite: Admission to educational leadership doctoral program.  
Mission, functions, organization, student characteristics, and problems with community college operations. Future trends in community college operations and need for new leadership and research opportunities.

ARP 810. Seminar in Community College Law and Finance (3)  
Prerequisite: Administration, Rehabilitation and Postsecondary Education 801.  
Legal framework for operating community colleges in California. Community college finance system including state and local contributions to funding.

ARP 812. Seminar in Budget and Resource Management in Community Colleges (3)  
Prerequisite: Administration, Rehabilitation and Postsecondary Education 801.  
Equitably and ethically managing, sustaining, and acquiring human, fiscal, and information resources, as well as assets to fulfill mission of the community college and postsecondary education institutions. Financial strategies and human resource systems and conflict resolution.

ARP 813. Strategic Planning in Community Colleges (3)  
Prerequisite: Administration, Rehabilitation and Postsecondary Education 801.  
Knowledge-based strategic planning to maximize student success in community colleges and postsecondary educational institutions. Board-administrator relationship development and use of data-driven evidence for decision-making.

ARP 827. Seminar in Emerging Issues in Postsecondary Education (3)  
Prerequisite: Admission to educational leadership doctoral program.  
Identification and analysis of complex emerging local, national, and international issues that face high level postsecondary educational leaders.

ARP 896. Selected Topics in Administration, Rehabilitation and Postsecondary Education (1-3)  
Prerequisite: Admission to educational leadership doctoral program.  
Intensive study in specific areas of Administration, Rehabilitation and Postsecondary Education. In-depth investigation of specific challenges in the field as well as introduction to current and emerging issues. May be repeated with new content. Maximum credit six units. See Class Schedule for specific content. Credit for 896 applicable to a doctoral degree with approval of the graduate adviser.
CFD 565. Best Practices of Care for Infants/Toddlers (3)
Prerequisites: Consent of instructor, Child and Family Development 370, and completion of all lower division preparation for the major courses with a grade of C (2.0) or better. Proof of completion of prerequisites required: Copy of transcript.
Best practices of care for infants and toddlers to include respectful, attentive physical care, its basic principles and the practical components of best practices of care for young children. Design environments of care that ensure safety and optimum growth and development in collaboration with families via meaningful connections between child care and child's home and culture.

CFD 575. Public Policy and Professional Ethics in Child and Family Development (3)
Ethical guidelines and other standards related to child and family development. Informed advocates for equitable educational practices and policies.

CFD 577. Professionalism and Advanced Administration of Child Development Programs (3)
Prerequisite: Child and Family Development 477. Proof of completion of prerequisite required: Copy of transcript.
Problem analysis and development of successful organizational strategies for child development program delivery. Leadership, effective communication, social and ethical issues from a multicultural perspective.

CFD 578. Conflict Resolution Across the Life Span (4)
Three lectures and three hours of laboratory.
Prerequisites: Child and Family Development 335, 370, 375A, 375B, 375C, 475, two units from Child and Family Development 378A, 378B, 378C, 378D, and Child and Family Development 537 and 560 with an overall grade of C (2.0) or better. Proof of completion of prerequisites required: Copy of transcript.
Theories of conflict development and resolution across lifespan. Parenting styles, discipline, behavior and class management, and conflict resolution techniques used in relationships. Directed experiences using conflict resolution techniques in various settings.

CFD 580. Observation and Assessment of Young Children's Environments and Relationships (3)
Prerequisite: Senior standing.
Ecobehavioral and developmental techniques and procedures to measure development, relationships, and environments. Administration of measures in class and in field.

CFD 585. Family Involvement and Engagement with Young Children: Work with Families at Risk (3)
Prerequisites: Senior standing. Concurrent registration in Child and Family Development 597.
Role of parents and caregivers in supporting and enhancing developmental outcomes. Home visitation programs, practices, and techniques. Field experience working with families at risk.
CFD 590. Children with Special Needs (4)
Three lectures and three hours of laboratory.
Prerequisites: Child and Family Development 270 or Psychology 230, Child and Family Development 353A, 353B, 353C, 370, and completion of 12 upper division units in child and family development with a grade of C (2.0) or better for majors; consent of instructor for graduate students.
Proof of completion of prerequisites required: Copy of transcript.
Adaptive and maladaptive processes throughout life span with emphasis on etiology, development, and adjustment of emotional, psychological, and physical disorders. Directed experience with special needs individuals and their families with focus on inclusion.

CFD 595. Early Childhood Mental Health: Theory and Practice (3)
Prerequisite: Senior standing.
Neurorelational framework to understand brain development and mental health. Emotional and behavioral regulation support at home and in educational settings.

CFD 596. Advanced Studies in Child and Family Development (1-6)
Prerequisite: Nine upper division units in child and family development.
Advanced study of selected topics. 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. No more than six units of 596 may be applicable to a bachelor's degree. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

CFD 597. Field Experience in Child and Family Development Programs (3) Cr/NC
Prerequisites: Completion of five child and family development 500-level courses with a grade of C (2.0) or better in each course.
Proof of completion of prerequisites required: Copy of transcript.
Work experience in child and family development. Application of theoretical and evidence-based information with reflective supervision from faculty and field supervisor. Development of professional identity, cultural self-awareness, and career goals. Maximum credit six units.

CFD 598. Reflective Learning Portfolio (1) Cr/NC
Two hours of activity.
Prerequisite: Senior standing. Limited to child development majors. Major code: 08231.
Capstone course to mentor child development majors to integrate knowledge acquired throughout child and family development program. Create portfolio and reflective essay.

GRADUATE COURSES

CFD 624. Seminar in Family Processes (3)
Prerequisite: Child and Family Development 335.
Analysis of selected research in family structure, development, and crisis. (Formerly numbered Child and Family Development 634.)

CFD 634A. Seminar in Family Therapy Theory and Techniques (3)
Prerequisite: Child and Family Development 335.
Family therapy theory and techniques to include cognitive-behavioral, multigenerational, psychodynamic, strategic, and structural models. Epistemological, theoretical, and foundations of family systems theory. (Formerly numbered Child and Family Development 634.)

CFD 634B. Seminar in Counseling Theories and Techniques (3)
Prerequisite: Classified graduate standing.
Psychotherapy theory and techniques to include cognitive-behavioral, emotion-focused, family systems, person-centered, and psychoanalytic. Interpersonal neurobiological foundation of psychological development and its theoretical and epistemological constructs.

CFD 660A. Seminar in Early Childhood Mental Health Career Development (3)
Prerequisite: Consent of graduate adviser.
Career development theories and techniques to include decision making models, interrelationships among and between family, work, and other life roles and factors; and multicultural issues in career development. (Formerly numbered Child and Family Development 660.)

CFD 660B. Seminar in Professional Law and Ethics in Counseling (3)
Prerequisite: Consent of graduate adviser.
Ethical standards, legal statutes, and regulations established by American Ethical standards, legal statutes, and regulations established by the American Counseling Association and the Board of Behavioral Sciences related to the practice of family therapy and psychotherapy. Child and elder abuse assessment and reporting, confidentiality, Health Insurance Portability and Accountability Act, involuntary commitment, patients' rights, privileged communication, other legal and ethical concerns specific to licensed professional clinical counselor profession.

CFD 670A. Seminar in Human Development Theories-Attachment and Affect Regulation in Young Children (3)
Prerequisite: Six upper division units in child and family development.
Advanced child and human growth theories. Attachment and affect regulation applications, models, research, and theories. Developmental crises, disability, and psychopathology. (Formerly numbered Child and Family Development 670.)

CFD 670B. Seminar in Human Development Theories- Intervention and Prevention Lifespan Approach (3)
Prerequisite: Classified graduate standing.

CFD 671A. Seminar in Supporting Early Childhood Mental Health (3)
Prerequisite: Six upper division units in child and family development.
Psychotherapeutic techniques and theories for early childhood mental health specialists and practitioners to include positive behavior support models. Multidisciplinary models of response to crises and trauma using multicultural approach. (Formerly numbered Child and Family Development 671.)

CFD 671B. Seminar in Supporting Early Childhood Mental Health-Counseling and Psychotherapeutic Techniques and theories (3)
Prerequisite: Classified graduate standing.
Ecological approach to child and family mental health interventions and overview of scientific literature on intervention effectiveness.

CFD 697A. Advanced Field Experiences A (3) Cr/NC
Prerequisite: Child and Family Development 670A, 670B, 671A, or 671B.
Human developmental theories and techniques in various community settings. Individual and group supervision. Maximum credit six units. (Formerly numbered Child and Family Development 697.)

CFD 697B. Advanced Field Experiences B (3) Cr/NC
Prerequisite: Child and Family Development 670A, 670B, 671A, or 671B.
Mental health and well-being of young children and families in culturally diverse communities. Multicultural theories and knowledge bases to clinical situations, strengths within diverse cultures, thoughts and feelings working with families from diverse cultures. Maximum credit six units.

CFD 698. On-Site Coaching and Consultation in a Clinical Setting (1-2) Cr/NC
Prerequisite: Consent of graduate adviser.
Professional competence, self-awareness, and understanding through on-site coaching experience. Working effectively with families, infants, and young children.

CFD 790. Research Methods and Program Development (3)
Prerequisite: Approval of graduate program adviser.
Research in child and family development: criteria and procedures for conducting research. Development of programs pertaining to children and families; literature review, proposal development, planning steps for implementation.
CFD 792. Advanced Clinical Experience and Group Supervision (3) Cr/NC
Prerequisite: Classified graduate standing in child development degree program.
Clinical field experience with individuals and groups. Advanced clinical supervision of group processes and working with young children and families experiencing trauma. Maximum credit three units applicable to master’s degree in child development. Maximum credit six units applicable to master’s degree in child development with concentration in early childhood mental health.

CFD 798. Special Study (1-3) Cr/NC/RP
Prerequisites: Consent of staff; to be arranged with the chair and instructor and approval of graduate program adviser.
Individual study. Maximum credit six units applicable to a master’s degree.

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

CFD 799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP 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.

CFD 799C. Comprehensive Examination Extension (0) Cr/NC
Prerequisite: Completion or concurrent enrollment in degree program courses.
Registration required of students whose only requirement is completion of the comprehensive examination for the master’s degree. Registration in 799C limited to two semesters.
Counseling and School Psychology

In the College of Education

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Faculty
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Patricia A. (Trish) Hatch, Ph.D., Professor of Counseling and School Psychology
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Gerald Monk, Ph.D., Professor of Counseling and School Psychology (Marriage and Family Therapy Graduate Adviser)
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Courses Acceptable for Master's Degree Programs in Counseling (CSP)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSE

CSP 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 in this area. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

GRADUATE COURSES

CSP 600. Cross-Cultural Counseling Communication Skills (2)
Prerequisite: Concurrent registration in Counseling and School Psychology 600L.
Concepts underlying effective cross-cultural counseling practice and interpersonal communication. Development of skills basic to practice of counseling, consultation, and marriage-family therapy.

CSP 600L. Cross-Cultural Counseling Prepracticum (1) Cr/NC
Prerequisite: Credit or concurrent registration in Counseling and School Psychology 600.
Development of self-understanding, Cross-cultural communication skills needed for becoming an effective counselor. May be repeated with new content. Maximum credit three units applicable to a master's degree in counseling.

CSP 601. Theoretical Foundations of Counseling and Marriage and Family Therapy (3)
Prerequisites: Counseling and School Psychology 600 and 600L. Counseling and marriage and family therapy theories and their impact on the practices of counselors, school counselors, school psychologists, marriage-family therapists and their clients. Approaches and applications for counseling and therapy. Research on counseling and marriage and family therapy.

CSP 606. Professional Issues in Mental Health Practice (3)
Prerequisites: Counseling and School Psychology 600 and 600L. Legal, ethical, and professional issues in counseling and marriage and family therapy practice, research, and training. Cultural underpinnings and clinical implications of legal and ethical codes.

CSP 609. Family Life Cycle Development (3)
Prerequisites: Counseling and School Psychology 600 and 600L. Family development examined within sociocultural and temporal contexts. Addresses predictable and crisis transitions and implications for family therapy treatment.

CSP 610. Determinants of Human Behavior (1-3)
Implications of theory and research in behavioral sciences for the understanding of human behavior.

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

CSP 618. Mental Health Recovery and the DSM: A Social Justice Perspective (3)
Prerequisite: Counseling and School Psychology 601. Descriptions of mental health disorders within biological, individual, familial, and larger social contexts. Focus on Diagnosis and Statistical Manual of Mental Disorders classification system and relationship to family functioning.

CSP 619. Foundations in Ecosystemic Thinking and School Psychology (3)
Prerequisite: Admission to school psychology program. Education and professional development of multiculturally competent, ecosystemic school psychologists involved in the lives of students, families, and schools.

CSP 620. Foundations of the Professional School Counselor Leader (3)
Prerequisite: Admission to school counseling program. Comprehensive school counseling to include historical perspective of school counseling policies, practices, future leadership directions, role and function of professional school counselor leader. Current trends in school counseling.

CSP 621. Social Justice Democratic Theory, Processes, and Skills (2)
Prerequisite: Concurrent registration in Counseling and School Psychology 621L.
Multicultural community counseling and social justice practice, to include democratic processes, community-building, and professional communication skills. Social change through working with people in communities, increasing self- and other-awareness, and relationship building. Fulfills licensure requirements for LPCC.

CSP 621L. Social Justice Democratic Theory, Processes, and Skills Laboratory (1) Cr/NC
Prerequisites: Concurrent registration in Counseling and School Psychology 621.
Supervised practice in multicultural community counseling and social justice practice, to include democratic processes, community-building, and professional communication skills. Social change through working with people in communities, increasing self- and other-awareness, and relationship building. Fulfills licensure requirements for LPCC.
CSP 622B. Ecosystems Assessment - Intervention II: Schools (3)
Prerequisites: Counseling and School Psychology 600, 600L.
Concurrent registration in Counseling and School Psychology 740.
Ecosystemic models and methods for assessment, intervention, and delivery of support services to multicultural schools. Roles of school psychologists and school counselors facilitating teaching-learning. Evaluating needs and outcomes with implications for interventions, programs, and school practices.

CSP 623. Ecobehavioral Assessment - Intervention (3)
Prerequisites: Counseling and School Psychology 622B; Concurrent registration in Counseling and School Psychology 730 or 740.

CSP 624. Learning, Achievement, and Instruction for School Counselors (3)
Prerequisite: Counseling and School Psychology 620.
Classroom management strategies and techniques. Curriculum design, lesson plan development, assessment tools, and instructional strategies for delivering school counseling core curriculum (academic, college/career, personal/social) in diverse schools.

CSP 625. Marriage and Family Therapy Theories and Best Practices I (3)
Prerequisite: Counseling and School Psychology 601.
Historical and empirical foundations of marriage and family therapy. Classic systemic theoretical models of practice from vantage point of assessment. Related change strategies and techniques.

CSP 626. Marriage and Family Therapy Theories and Best Practices II (3)
Prerequisites: Counseling and School Psychology 625.
Contemporary marriage and family therapy theories including: post-modern ideas, such as narrative therapy and collaborative language systems, integrative and evidence-based approaches; alternative approaches to family therapy, such as coaching and mediation.

CSP 630. Social Justice and Holistic School Systems for School Counselors (3)
Prerequisite: Counseling and School Psychology 620.
Historical and current holistic school systems and role of professional school counselor. Ecosystemic and social justice theory and models; practical implications for providing school counseling services for individual students in multicultural schools.

CSP 635. Sexuality and Intimacy in Couple and Family Therapy and Counseling (1-2)
Prerequisites: Counseling and School Psychology 621 and 621L, or 625, or consent of instructor.
Approaches to understanding sexual functioning and intimacy through multicultural, historical, and relational clinical theory frameworks. Specific sexual issues presented in therapy, treatment planning, and intervention. Fulfills marriage and family therapy and LPCC licensure requirements.

CSP 640. Testing and Assessment for Marriage and Family Therapists (2)
Prerequisite: Education 690.
Theory and application of individual and relationship assessment instruments in marriage and family therapy practice. Test development processes. Cultural factors in testing and interpretation. Current uses of tests in mental health, educational, and legal institutions. (Formerly offered as Counseling and School Psychology 640, Theories and Process of Appraisal, 3 units.)

CSP 642. Multicultural Assessment in Individual and Community Counseling (2)
Prerequisite: Education 690.

CSP 642L. Multicultural Assessment in Individual and Community Counseling Laboratory (1) Cr/NC
Prerequisite: Education 690.

CSP 643. Psychoeducational Evaluation Techniques (1) Cr/NC
Prerequisite: Counseling and School Psychology 641.
Theories and concepts underlying psychoeducational evaluation in multicultural schools. Administration and interpretation of instruments and techniques for psychodiagnostic evaluation of children and adolescents.

CSP 644. Academic Assessment - Intervention (3)
Prerequisites: Concurrent registration in Counseling and School Psychology 730 or 740.
Current concepts of prevention and intervention strategies for students placed at risk for academic difficulties in multicultural schools. Skills in assessment of academic achievement (standardized and authentic), linked to empirically supported intervention strategies, evaluation of intervention effectiveness.

CSP 645. College Planning and Career Development P-16 (3)
Prerequisite: Counseling and School Psychology 620.
College planning, career readiness, and career technical education P-16. Technology promoting equity, access, and opportunity for culturally diverse populations to post secondary options.

CSP 650. Trauma and Crisis Counseling in Multicultural Context (1-3)
Prerequisites: Counseling and School Psychology 601; 621 and 621L, or 625, or consent of instructor.
Multicultural and social justice; crisis and trauma counseling and therapy to include historical and philosophical origins of current theories and practices and implications for multidisciplinary treatment. Trauma and diversity.

CSP 662. Counseling Interventions with Children and Adolescents (3)
Prerequisites: Counseling and School Psychology 601 and 610C.
Counseling theories, processes and approaches appropriate to children and adolescents in multicultural school and community settings. Application of theories and research for individual, group, family and larger systems interventions.

CSP 663. Response to Intervention: Assessment-Intervention for Learning I (3)
Prerequisites: Admission to school psychology program and a psychometrics course approved by faculty.
Foundational assessment skills in authentic and curriculum-based approaches for intervention for school-age students. Standardized assessment as a bridge to part II.

CSP 664. Response to Intervention: Assessment-Intervention for Learning II (3)
Prerequisite: Counseling and School Psychology 663.

CSP 670. Theory and Process of Group Counseling (2-3)
Prerequisites: Counseling and School Psychology 600 and 600L.
Group process, theories of group interaction, and group leadership techniques with children, adolescents, adults, couples, and families. Fulfills requirements for licensed professional clinical counselor and marriage and family therapy licensure.

CSP 670L. Group and Community Counseling Laboratory (1) Cr/NC
Prerequisite: Credit or concurrent registration in Counseling and School Psychology 670.
Supervised practice in group counseling, community counseling, group leadership. May be repeated with new content. Maximum credit three units applicable to master’s degree in counseling.
Counseling and School Psychology

CSP 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 problem-solving and consultation in multicultural education and mental health settings.

CSP 686. Seminar: Multicultural Family Therapy Practice in Community Settings (3)  
Prerequisites: Counseling and School Psychology 625 and 740.  
Integration of gender and cultural factors into family systems therapy theory and practice.

CSP 687. Family and Systemic Treatment of Substance Abuse (1-3)  
Prerequisite: Counseling and School Psychology 621 and 621L or 625, or consent of instructor.  
Systemic models of intervention for families, couples presenting problems related to substance abuse. Includes treatment issues of interdependence, power, intimacy, generational patterns, addition and relapse. Fulfills marriage and family therapy and LPCC requirements.

CSP 688. Family Systems Assessment of Child Abuse (1)  
Prerequisite: Counseling and School Psychology 601.  
Examines child abuse assessment within individual, family, sociocultural, developmental and systemic frameworks. Treatment goals, issues and strategies derived from family systems therapies. Fulfills marriage and family therapy licensure requirement.

CSP 689. Family Counseling in the Schools (1)  
Prerequisites: Counseling and School Psychology 600 and 600L.  
Roles and approaches of family counselor in working with schools for children's school-based problems. Family systems theory and practice applied to family-school interface, cultural interaction, specific symptomology, and professional and ethical issues.

CSP 691. Violence in Couples' Relationships (1)  
Prerequisite: Counseling and School Psychology 621 and 621L or 625, or consent of instructor.  
Sociocultural, developmental, family and individual contexts of violence in couples' relationships. Assessment with a focus on systemic ideas and practices. Legal, ethical, and person-of-the-therapist influence on assessment. Fulfills marriage and family therapy and LPCC licensure requirements.

CSP 692. Seminar: Couples Therapy and Evidence-Based Relational Practices (3)  
Prerequisites: Counseling and School Psychology 609 and 625.  
Explores and applies theory and practice of therapy with couples in premarital, marital, non-marital, divorce, recoupling, and remarriage situations. Intra and intercultural issues and gender factors in coupling. Discussion of specific problems such as infidelity or depression.

CSP 693. Special Topics in Families and Larger Social Systems (1)  
Prerequisites: Counseling and School Psychology 625.  
Variable topics addressing issues of relationships between families and larger social systems in marriage and family therapy. Examples include: home-based family therapy, immigrants and refugees in therapy, cultural trauma, larger systems change, spirituality, technology and therapy. May be repeated with new content. Maximum credit six units applicable to a master's degree in counseling.

CSP 694. Psychopharmacology for Marriage and Family Therapists and Counseling (2-3)  
Prerequisite: Counseling and School Psychology 618.  
Principles, strategies, and guidelines for use of psychopharmacology in marriage and family therapy practice. Overview of most commonly used drugs in psychotherapeutic treatment. Fulfills marriage and family therapy and LPCC licensure requirements.

CSP 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate advisor.

CSP 710A-710B. Professional Seminar (3-3)  
Prerequisites: Education 690. Six units from Counseling and School Psychology 601, 640, and 670.  
Study of selected areas in counseling, marriage and family therapy, school counseling, or school psychology culminating in a written project with emphasis on counseling as a profession. May be repeated with new content. See Class Schedule for specific content. Maximum credit nine units applicable to a master's degree.

CSP 723. School-Based Mental Health Interventions (3)  
Prerequisite: Counseling and School Psychology 623.  

Prerequisites: Counseling and School Psychology 600, 600L, 619, 623.  
Models, theory, research, and practice in school psychology roles in family-school collaboration in diverse schools. School-wide, group, and individual approaches for improving school climate, parent engagement, communication, and interventions involving families, school staff, school psychologists, and others.

CSP 730. Fieldwork in Counseling (2-6) Cr/NC  
Prerequisites: Counseling and School Psychology 601 or 662 or 670.  
Application of concepts and procedures of counseling, school 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. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree in counseling.

CSP 731. Ethics and Law for Educators (3)  
Prerequisite: Graduate standing in counseling and school psychology, special education, or teacher education.  
Professional issues in school psychology, special education, applied behavioral analysis, and mental health. Professional ethics, dilemmas, legislation, and case law relevant to delivery of ethically and legally sound services.

CSP 740. Practicum (1-6) Cr/NC  
Prerequisite: Counseling and School Psychology 601.  
Supervised experience in counseling, school counseling, or school psychology. May be repeated with new content. See Class Schedule for specific content. Maximum credit nine units applicable to a master's degree in counseling.

CSP 742. Policy, Politics, Law, and Ethics for School Counselors (1-3)  
Prerequisite: Counseling and School Psychology 620.  
Policies and politics influencing education, school counselors, and students. Legal mandates, ethical standards, practices of the school counseling profession, and how to apply to educational and counseling situations.

CSP 744. Cognitive Assessment - Intervention (3)  
Prerequisites: Counseling and School Psychology 644.  

CSP 745. Program Development and Evaluation in 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.

CSP 746. Dynamic Assessment and Mediated Interventions (3)  
Three hours of clinical practice.  
Prerequisites: Counseling and School Psychology 610D and 744.  

CSP 750. Response to Intervention: Assessment and Instructional Support for Culturally and Linguistically Diverse Learners (3)  
Prerequisite: Counseling and School Psychology 644 or 663.  
Effective assessment and instructional support strategies for culturally and linguistically diverse students within Response to Intervention (RTI) framework. Language and culture, disproportionality in special education, non-biased assessment practices and interventions, and report writing.
Counseling and School Psychology

CSP 751. Response to Intervention: Advanced Assessment-Intervention: Special Populations (3)
Prerequisites: Counseling and School Psychology 664 and 750. Response to Intervention (RTI) and instructional support strategies for special populations to include autism, preschool, and low incidence disabilities. Developmental and play-based assessment, individual differences, and diversity.

CSP 752. Seminar and Practicum: School Psychology (3-6) Cr/NC
Nine hours of practicum for three units. Prerequisite: Counseling and School Psychology 730. School psychology in multicultural school settings; implications for standard and innovative school psychology practices. Maximum credit six units applicable to the Ed.S. degree.

CSP 755. Practicum I: Marriage and Family Therapy (3) Cr/NC
Prerequisites: Counseling and School Psychology 625. Supervised experience in relationship and family therapy under live supervision. Application of assessment methods and basic techniques. Clinical hours may be counted toward 500 clinical hours and marriage and family licensure eligibility requirement. May be repeated for additional clinical training experience. Maximum credit nine units applicable to a master's or Ed.S. degree.

CSP 760. Advanced Seminar in School Psychology (3)
Prerequisites: Counseling and School Psychology 710A and 752. Study of selected areas in school psychology which culminates in a written project with emphases on research, problems and/or issues. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

CSP 761. Dynamic Cognitive Assessment and Intervention (3)
Prerequisite: Advancement to candidacy. Theory and practice of cognitive modifiability and knowledge construction; role of culture and second language acquisition in cognitive development. Proficiency in identifying and assessing modifiable cognitive functions; administer and interpret multiple assessment tools; report to parent and teacher.

CSP 762. Prevention, Crisis Intervention, and Conflict Resolution in Schools (3)
Prerequisites: Counseling and School Psychology 622B and 662. Examination, design, implementation, and evaluation of wellness, prevention, intervention, and other mental health programs at individual, group, and system levels in schools. Focus on roles for school support personnel in promoting wellness and resiliency and intervening in school settings.

CSP 764. Advanced Educational Psychology: Developmental and Biological Bases of Behavior (3)
Prerequisites: Counseling and School Psychology 723. Human neuropsychology relevant to assessment and intervention practices within school settings; associated biological and cultural influences on human behavior. Brain-behavior relationships within context of cognitive and developmental psychology, learning, and education.

CSP 765. Practicum II: Marriage and Family Therapy (3) Cr/NC
Prerequisite: Counseling and School Psychology 755. Advanced supervised experience in relationship and family therapy under live supervision. Advanced techniques and treatment planning. Clinical hours may be counted toward 500 clinical hours and marriage and family licensure eligibility requirement. May be repeated with additional clinical training experience. Maximum credit three units applicable to a master's degree.

CSP 769. The Achievement Gap: Leadership, Advocacy, and Systemic Change (3)
Prerequisite: Counseling and School Psychology 620. Advanced supervised experience in relationship and counseling experience. Selected areas in counseling culminating in a written project with emphasis on research, problems, and issues. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

CSP 770. Advanced Seminar in Counseling (3)
Prerequisite: Advancement to candidacy or counseling experience. Prerequisite: Advanced to candidacy or counseling experience. Advanced supervised experience in relationship and counseling experience. Selected areas in counseling culminating in a written project with emphasis on research, problems, and issues. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

CSP 771. Advanced Learning and Multi-Tiered Mediated Interventions (3)
Prerequisite: Counseling and School Psychology 761. Design and delivery of cognitively mediated interventions tiers 1, 2, and 3 of Response to Intervention (RTI). Incorporation of critical thinking, prior knowledge and cultural grounding, standards, depth of content, and progress monitoring.

CSP 775. ASCA Model I: Developing and Implementing a School Counseling Program (3)
Prerequisite: Counseling and School Psychology 620. Part I of a two part sequence. Professional knowledge, skills, competencies, and abilities to create, implement, and evaluate school counseling program in K-12 schools. Program foundation, design, and implementation.

CSP 776. ASCA Model II: Evaluating and Improving School Counseling Programs (3)
Prerequisite: Counseling and School Psychology 620. Part II of a two part sequence. Professional knowledge, skills, competencies, and abilities to create, implement, and evaluate school counseling program in K-12 schools. Program assessment, accountability, and evaluation.

CSP 780. Internship (2-12) Cr/NC
Supervised internship experience in counseling or school psychology activities. Application to take the course must be made early during the preceding semester. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree. Maximum credit 24 units applicable to the specialization in school psychology.

CSP 784. Advanced Consultation in Diverse Schools (3)
Prerequisites: Counseling and School Psychology 680, 723, 726. Consultation research, theories, and expertise in cross-cultural and consultee-centered consultation. Clinical skills in advanced consultation challenges to include interrupting racism, promoting conceptual change, shifting perceptions, and development of sustainable interventions.

CSP 785. Marriage and Family Therapy Traineeship (1-10) Cr/NC
Prerequisite: Counseling and School Psychology 755. Community-based clinical marriage and family therapy experience, with AAMFT approved supervisor or equivalent. Individual and group supervision at site and on campus. Clinical hours may be counted toward 500 clinical hours and marriage and family therapy licensure eligibility requirement. May be repeated with new content. Maximum credit ten units.

CSP 799A. Thesis (3) Cr/NC/ RP
Prerequisites: An officially appointed thesis committee and advancement to candidacy. Preparation of a thesis for the Master of Science degree in counseling.

CSP 799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of RP. Registration required in any semester or term following assignment of RP 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.

CSP 799C. Comprehensive Examination Extension (0) Cr/NC
Prerequisite: Completion or concurrent enrollment in degree program courses. Registration required of students whose only requirement is completion of the comprehensive examination for the master's or Ed.S. degree. Registration in 799C limited to two semesters.
Dual Language and English Learner Education

In the College of Education

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Courses Acceptable for Master's Degree Programs in Education (DLE)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

DLE 515. Multilingual Education: Theory and Practice for Biliteracy Teachers (3)
Pedagogical and programmatic practices for addressing linguistic and academic needs of multilingual learners. Historical and theoretical foundations of bilingual education as related to bilingual and dual language programs to include instruction, curriculum, and assessment. Taught in Spanish and English. (Formerly numbered Policy Studies in Language and Cross-Cultural Education 515.)

DLE 523. Psychological Foundations for Biliteracy Teachers in K-6 Classrooms (3)
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. (Formerly numbered Policy Studies in Language and Cross-Cultural Education 523 and 923.)

DLE 524. Psychological Foundations for Biliteracy Teachers in Grades 7-12 (1-4)
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. May be repeated with new content. See Class Schedule for specific content. Maximum credit four units. (Formerly numbered Policy Studies in Language and Cross-Cultural Education 524 and 924.)

DLE 532. Biliteracy Teaching in Language Arts for Elementary Students (3)
Prerequisites: Dual Language and English Learner Education 415 and 515.
Assessing language proficiency; selecting, designing, and evaluating learning experiences to develop biliteracy in K-6 classrooms in English language arts and Spanish, Arabic, or Mandarin. Taught bilingually in language of emphasis and English. (Formerly numbered Policy Studies in Language and Cross-Cultural Education 532 and 932.)

DLE 553. Language Assessment and Evaluation in Multicultural Settings (3)
Theories and methods of assessment and evaluation of diverse student populations including authentic and traditional models. Procedures for identification, placement, and monitoring of linguistically diverse students. Theories, models, and methods for program evaluation, achievement, and decision making. (Formerly numbered Policy Studies in Language and Cross-Cultural Education 553.)

DLE 596. Special Topics in Bilingual and Multicultural Education (1-3)
Prerequisite: Consent of instructor.
Selected topics in bilingual, cross-cultural education and policy studies. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

GRADUATE COURSES

DLE 600A. Foundations of Democratic Schooling (3)
Prerequisite: Consent of instructor.
Analysis of relationships among ideology, culture, and power in educational context; key concepts in critical pedagogy applied to programs, curricula, and school restructuring. (Formerly numbered Policy Studies in Language and Cross-Cultural Education 600A.)

DLE 600B. Foundations of Dual Language Programming for Critical Biliteracy Development (3)
Prerequisite: Bilingual authorization credential or score of 3 on SDSU Spanish examination.
Critical literacy and democratic schooling for dual language program models. Program models that apply to policies and practices that inform literacy curriculum and pedagogy in dual language-biliteracy settings. (Formerly numbered Policy Studies in Language and Cross-Cultural Education 600B.)

DLE 601. Language Policies and Practices (3)
Prerequisite: Consent of instructor.
Formal and informal policies related to education of linguistically diverse students at micro/macro level and in school contexts; analysis of bilingual and cross-cultural issues in cognition and literacy. (Formerly numbered Policy Studies in Language and Cross-Cultural Education 601.)

DLE 603. Community and Schools in a Diverse Society (3)
Prerequisite: Consent of instructor.
Linguistic and cultural diversity of school and community. Development of community sociocultural scan; home and school collaboration; effects of home and school collaboration on achievement; responsibility of parent caretaker, stakeholder for student success. (Formerly numbered Policy Studies in Language and Cross-Cultural Education 603.)

DLE 604. Learning and Teaching Language in a Dual Language Setting (3)
Prerequisite: Bilingual authorization credential or score of 3 on SDSU Spanish examination.
Dual language instructional methods, modeling oral and written grammatical structures. Language acquisition strategies for English and Spanish in K-12 grades. Emphasis on written structures for academic literacy. (Formerly numbered Policy Studies in Language and Cross-Cultural Education 604.)

DLE 650. Curriculum Development for Urban School Communities (3)
Prerequisites: Dual Language and English Learner Education 600A and 601.
Curriculum development through lens of critical theory. Principles of curriculum and instruction contextualized and with regard to particular educational institutions or work sites from a social justice perspective. (Formerly numbered Policy Studies in Language and Cross-Cultural Education 650.)

DLE 651. Curriculum, Teaching, and Assessment: ELD and SDAIE (1-3)
Prerequisite: Dual Language and English Learner Education 915A or 915B.
English language development and delivery of comprehensive instruction for English learners. Strategies for implementing state adopted instruction programs for ELD in language and content. (Formerly numbered Policy Studies in Language and Cross-Cultural Education 651.)
DLE 652. Literacy and Language: Critically Examining Curriculum for Teaching and Learning (3)
Prerequisite: Dual Language and English Learner Education 650. Research in literacy and multi-cultural curriculum theories, methods, and teaching connected to community, school, and personal literacies. Literacy practices for educating diverse students; varying definitions of literacy and social-political contexts of literacy curriculum.

DLE 653. Language Development in K-12 Multilingual Classrooms (3)
Prerequisite: Admission to bilingual authorization credential program.
Dual language and multilingual classrooms, universals and differences in language structure, transfer, and use (including basic linguistics). First and additional language development; related factors (political/sociocultural aspects of bilingualism). Taught in English and Spanish. (Formerly numbered Policy Studies in Language and Cross-Cultural Education 653 and 953.)

DLE 686. Seminar in Multicultural Education (1-6)
Prerequisite: Consent of instructor.
Topics dealing with current issues in multicultural education. See Class Schedule for specific content. Maximum credit six units applicable to a master’s degree. (Formerly numbered Policy Studies in Language and Cross-Cultural Education 686.)

DLE 798. Special Study (1-6) Cr/NC/RP
Prerequisite: Consent of instructor; to be arranged with department chair and instructor.
Individual study. May involve fieldwork. Maximum credit six units applicable to a master’s degree.

CREDENTIAL COURSES

DLE 910. Teaching Mathematics to Bilingual Students (1-3)
Prerequisite: Admission to Bilingual 2042 Multiple Subject credential program.
Underlying learning theories for teaching mathematical concepts, computation, and problem-solving skills to bilingual students. (Formerly numbered Policy Studies in Language and Cross-Cultural Education 910.)

DLE 911. Teaching Social Studies to Bilingual Students (1-3)
Prerequisite: Admission to Bilingual 2042 Multiple Subject credential program.
Conceptual approaches for teaching bilingual social studies curriculum, incorporating sociocultural characteristics of multicultural community, social concepts, and community social issues. (Formerly numbered Policy Studies in Language and Cross-Cultural Education 911.)

DLE 912. Teaching Science to Bilingual Students (1-3)
Prerequisite: Admission to Bilingual 2042 Multiple Subject credential program.
Strategies for development of process skills and concept acquisition. Methodology for teaching activity-oriented science class bilingually. (Formerly numbered Policy Studies in Language and Cross-Cultural Education 553 and 912.)

DLE 915. Teaching and Learning in the Content Area: English Language Development/SDAIE (1-3)
Prerequisites: Education 451, Dual Language and English Learner Education 515, and admission to Bilingual 2042 Single Subject credential program.
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 914 and 915.)
A. Multiple Subjects
B. Single Subjects
C. Special Education

DLE 925. Intern Seminar: Teaching English Learners (1)
Prerequisite: Admission to an internship program in dual language and English learner education, special education, or teacher education.
Research-based instruction to meet the needs of diverse language learners in a variety of classroom settings. Maximum credit six units.
EDL 620. Seminar in Educational Facility Community to preK-12 educational environments. practice in procedures of individual and group leadership as applied Credential program and classified graduate standing.

EDL 610. Visionary Leadership (3) relates to the aspiring school administrator. competencies for leadership and administrative practice as each organizational concepts and management theories. Principles and Credential program and classified graduate standing.

EDL 600. Organizational and Systems Leadership (3) Selected problems in educational leadership. 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

Courses Acceptable for Master's and Doctoral Degree Programs in Education (EDL)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSE

EDL 596. Topics in Educational Leadership (1-3) Selected problems in educational leadership. 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

GRADUATE COURSES

EDL 600. Organizational and Systems Leadership (3) Prerequisites: Admission to Preliminary Administrative Services Credential program and classified graduate standing. 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.

EDL 610. Visionary Leadership (3) Prerequisites: Admission to Preliminary Administrative Services Credential program and classified graduate standing. Concepts and techniques of leadership, analysis of factors and practice in procedures of individual and group leadership as applied to preK-12 educational environments.

EDL 620. Seminar in Educational Facility Community Engagement and Master Planning (2) Prerequisite: Admission to Certificate in Educational Facility Planning. Models of community partnership processes, methods for determining accurate enrollment projections, and stages, timelines, and processes for designing and implementing a school facility project.

EDL 621. Seminar in Designing Schools to Support Diverse Learning Style Needs (2) Prerequisite: Admission to Certificate in Educational Facility Planning. Linking school design to learning and teaching styles, enhancing opportunities for differentiated instruction within classrooms.

EDL 622. Seminar in Educational Facility Pre-Design Planning (2) Prerequisite: Admission to Certificate in Educational Facility Planning. Components of school facility pre-design planning, processes for deriving essential information, strategies for documenting detail, and means to connect planning with design.

EDL 623. Seminar in Educational Facility Design Process (2) Prerequisite: Admission to Certificate in Educational Facility Planning. Architectural/engineering design process of school facilities, including who is involved, how they are involved, when, why, and intended outcomes of process.

EDL 624. Seminar in Educational Facility Implementation (2) Prerequisite: Admission to Certificate in Educational Facility Planning. School facility capital project management from initial conception through planning, design, construction, and post-occupancy phases, presenting various project delivery models and defining role of stakeholders in each phase.

EDL 625. Seminar in Educational Facility Assessment and Maintenance (2) Prerequisite: Admission to Certificate in Educational Facility Planning. Purpose and methods of school facility life cycle assessment, indicators of quality, assessment instruments, maintenance programs as an assessment tool, and procedures and policies for institutionalizing assessment.

EDL 630. School Improvement Leadership (3) Prerequisites: Admission to Preliminary Administrative Services Credential program and classified graduate standing. Analyzing data to identify opportunities for school improvement. Appropriate and effective school improvement theories and strategies. Communication skills and leading others in improvement and monitoring of these efforts.

EDL 640. Community Leadership (3) Prerequisites: Admission to MA degree or tier 1 credential program; Educational Leadership 600 and 610. Increasing family and community involvement in schools. Improving student achievement through using educational leadership strategies and resources.

EDL 650. Professional Learning and Growth Leadership (3) Prerequisites: Admission to Preliminary Administrative Services Credential program and classified graduate standing. Model professional growth development. Principles of adult learning; identify and facilitate appropriate professional growth opportunities for staff. Collaboration with others to achieve mission of improving teaching and learning.

EDL 652. Seminar in Instructional Leadership (3) Prerequisites: Admission to Preliminary Administrative Services Credential program 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.

EDL 655. Communication, Problem Solving, and Decision Making in PK12 (3) Prerequisites: Admission to Preliminary Administrative Services Credential program and classified graduate standing. Educational leadership principles and practices for communication, problem solving, and decision making in preK-12 schools and educational organizations.
EDL 660. Field Experience in Educational Leadership (1-6) Cr/NC/RP  
Prerequisite: Admission to Preliminary Administrative Services Credential 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.

EDL 680. Seminar in PreK-12 Educational Administration (2-6) Cr/NC  
Prerequisite: Consent of instructor.  
Educational administration in preK-12 schools and school districts. 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.

EDL 696. Advanced Topics in Educational Leadership (1-3)  
Intensive study in specific areas of educational leadership. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

EDL 707. Educational Law and Finance (3)  
Prerequisites: Completion of a graduate degree and approval of department.  
Legal and financial aspects of educational administration including implications for policy formulation in the areas of personnel, instruction, and resource management.

EDL 720. Human Resource Development in PreK-12 Educational Organizations (3)  
Prerequisites: Completion of a graduate degree and approval of department.  
Human resource management in preK-12 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.

EDL 755. Governance and Policy Development in PreK-12 Learning Organizations (3)  
Prerequisites: Completion of a graduate degree and approval of department.  
Development of preK-12 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.

EDL 760. Practicum in PreK-12 Educational Organizations (2-6) Cr/NC/RP  
Prerequisite: Consent of instructor. Internship for preK-12 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.

EDL 798. Special Study (1-6) Cr/NC/RP  
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.

DOCTORAL COURSES

EDL 830. Leadership for Learning (3)  
Prerequisite: Admission to educational leadership doctoral program.  
Models of curriculum, instruction, and school organization. The leader's role and responsibility in developing evidence-based decision making cultures that promote student achievement.

EDL 880. Seminar in Topics in Educational Leadership (3)  
Prerequisite: Admission to educational leadership doctoral program.  
Topical issues in field of educational leadership that have broad implications for research and practice in educational leadership. Maximum credit six units applicable to Ed.D. in educational leadership.

EDL 899. Doctoral Dissertation (1-15) Cr/NC/RP  
(Offered only in the College of Extended Studies)  
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.
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Courses Acceptable for Master's Degree Programs in Education (SPED)
Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

SPED 500. Human Exceptionality (3)
Historical, philosophical, and legal aspects of special education that affect identification and programming for diverse learners with exceptionalities. Characteristics of individuals with special needs and implications for adapting living and learning environments. Meets special education mainstreaming requirement for all basic teaching credentials.

SPED 501. Typical and Atypical Learning Processes (3)
Prerequisites: Credit or concurrent registration in Special Education 500; concurrent registration in Special Education 502.
Theory, research, and processes in learning in relation to individuals with disabilities. Foundations of learning, development, and intervention.

SPED 502. Field Experiences in General and Special Education (1) Cr/NC
Three hours of observation/participation per week.
Prerequisite: Concurrent registration in Special Education 501.
Observation and participation in general and special education classrooms and related school activities for students with disabilities.

SPED 505. Educational Services for Students with Serious Emotional Disturbance (1)
Prerequisite: Admission to credential program.
Educational needs and services for students with serious emotional disturbance. Classroom interventions and procedures.

SPED 510. Adapting Communication Systems for Students with Severe Disabilities (1)
Prerequisite: Admission to credential program.
Adaptations of communications and communication systems for students with disabilities. Educational strategies that special education teachers can use to augment classroom communications. Alternative approaches to communication for students with moderate/severe disabilities.

SPED 524. Characteristics of Students with Mild/Moderate Disabilities (3)
Prerequisite: Special Education 500.
Historical and philosophical perspectives of programs related to students with mild/moderate disabilities. Research on educational programs, curricular approaches, and characteristics.

SPED 525. Characteristics of Students with Moderate/Severe Disabilities (3)
Prerequisite: Special Education 500.
Historical and philosophical perspectives of programs related to students with moderate/severe disabilities. Research on educational programs, curricular approaches, and characteristics with emphasis on services in context of school reform.

SPED 526. Characteristics and Education of Students with Physical, Health, and Sensory Impairments (3)
Prerequisite: Admission to credential program.
Historical and philosophical perspectives, characteristics, needs, and supports for individuals with physical, health, and sensory impairments in educational, home, and community settings. Implications of health concerns for programming.

SPED 527. Special Education in a Pluralistic Society (3)
Prerequisite: Credit or concurrent registration in Special Education 500.
Historical and philosophical perspectives of cultural pluralism in special education and programs related to diverse students with disabilities. Research on curricular approaches and instructional needs. Sociocultural aspects related to disability, race, ethnicity, gender, and language.

SPED 528. Young Children with Disabilities and Their Families (3)
Prerequisite: Special Education 500.
Characteristics, needs, and educational programs and services for infants, toddlers, and preschoolers with disabilities and their families. Legislative requirements, models of service delivery, recommended practices, and family diversity.

SPED 530. Issues in Autism (3)
Prerequisite: Admission to credential program.
Definition, etiology, assessment, and instructional practices used to address autism. Historical and current issues.

SPED 534. Classroom Assessment of Students with Mild/Moderate Disabilities (3)
Prerequisite: Admission to credential program.
Assessment in general and special education for students with mild/moderate disabilities. Curriculum-based data collection strategies. Influences of cultural and linguistic diversity, and implications for curricular and instructional adaptations.

SPED 553. Behavioral Strategies and Supports for Students with Disabilities (3)
Prerequisite: Admission to credential program.
Positive behavioral supports for students with disabilities in general and special education settings. Current theories and programs in functional assessment and behavioral change. Applications in educational and community environments with diverse students.

SPED 560. Applications of Technology for Individuals with Disabilities (3)
Prerequisite: Admission to credential program.
Educational applications of current technologies for learners with disabilities. Selection, modification, and classroom use of technologies to improve or bypass physical, sensory, communicative, learning, and social limitations.

SPED 596. Selected Topics in Special Education (1-4)
Specialized study of selected topics in special education. May be offered as either a workshop or lecture/discussion. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.
GRADUATE COURSES

SPED 600. Classroom Adaptations for Special Populations (2)
Prerequisite: Preliminary multiple or single subject credential.
Strategies for adapting curriculum, differentiating instruction, meeting social and behavioral needs. Modifying assessments for students with disabilities and students with gifts and talents in general education classrooms. Applicable to Induction Program for the California Professional Clear Credential.

SPED 605. Advanced Behavioral and Health Supports (1)
Prerequisite: Admission to clear credential or M.A. program in special education or related area.
Advanced approaches to dealing with behavioral crises and health issues in classrooms, to include working with mental health specialists and school nurses.

SPED 635. Assessment: Early Childhood Special Education and Moderate/Severe Disabilities (3)
Prerequisite: Admission to credential program.
Models of assessment emphasizing observation and interviews, study skills, organizational strategies, and social and transition development, reading, language arts, and mathematics for students with severe handicaps; approaches which foster school and community integration and active family involvement will be analyzed. Both Special Education 643A and 643B required. Maximum credit six units.
A. Preschoolers
B. Infants/Toddlers

SPED 644. Working with Gifted and Talented Students and Their Families (3)
Research-based instructional strategies to promote higher level and creative thinking; counseling approaches; services to families; issues in differentiating learning experiences.

SPED 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.

SPED 647. Special Education Adaptations of Basic Skills Instruction (3)
Prerequisites: Admission to credential program and concurrent registration in Special Education 970.
Adaptations in curriculum and instruction in language development, reading, language arts, and mathematics for students with disabilities. Current research and practices related to linguistic, cultural, and ability differences.

SPED 648. Advanced Special Education Adaptations (3)
Prerequisites: Special Education 647 and concurrent registration in Special Education 980.
Advanced adaptations in curriculum and instruction in content areas, study skills, organizational strategies, and social and transition skills. English-as-a-second language approaches for students with disabilities. Research and practices related to linguistic, cultural, and ability differences.

SPED 649. Curriculum Models for Students Who Are Gifted and Talented (3)
Prerequisite: Credit or concurrent registration in Special Education 644.
Theory, research, and practice in curriculum design and program implementation for developing high potential.

SPED 650. Special Topics in Special Education (1-4)
Prerequisites: Special Education 500, 501.
Instructional sequences (mini-courses) focusing on a single topic or competency dealing with special education. Topics differ each semester to adjust to current literature in the field, training needs, and resource availability. Maximum combined credit of six units for Special Education 650A, 650D applicable to a master's degree.
A. Consultant Skills/Multidisciplinary Teams
B. Instructional Programming

SPED 651. Legislation, Leadership, and Management for Special Education Services (3)
Prerequisite: Admission to clear credential or M.A. program in special education or related area.
Implementation of laws, regulations, and compliance requirements in special education. Leadership approaches for managing school related services within a multidisciplinary context.

SPED 653. Advanced Instruction, Collaboration, and Consultation in Special Education (3)
Prerequisite: Admission to clear credential or M.A. program in special education or related area.
Advanced instruction, collaboration, consultation skills, and strategies for working with students, teachers, paraprofessionals, school personnel, other service providers, parents, and representatives from the community.

SPED 657. Facilitating Transition Across Environments in Special Education (3)
Facilitating transition for individuals with disabilities across activity environments, and settings including transitions to employment, Instructional planning, assessment, and transition from school to work including postsecondary education.

SPED 662. Collaboration, Legislation, and Educational Planning in Special Education (3)
Prerequisites: Admission to credential program and credit or concurrent registration in Special Education 980.
Collaboration, legislation, and individualized special education program planning skills for working with school personnel, parents, and community resources. Listening and questioning techniques, interpersonal processes, family systems, conflict resolution, decision-making, team functions, goals, objectives, outcomes, legal and ethical issues.

SPED 676. Advanced Applied Behavior Analysis (3)
Prerequisite: Special Education 553.
Ethical application of research-based strategies based on behavior analysis. Emphasis on arranging learning opportunities to increase student skills and data collection.

SPED 681. Advanced Studies in Special Education (3)
Prerequisites: Special Education 524 or 525 or 528.
Educational theories, philosophies, research findings, issues and trends in area of exceptionality. Application of research to solution of educational problems. May be taken in each area of exceptionality:
A. Mild/Moderate Disabilities
B. Autism, Early Childhood, and Moderate/Severe Disabilities

SPED 685. Single Case Research Design (3)
Prerequisite: Special Education 553.
Single-case research designs focused on interventions with individuals with disabilities.

SPED 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

SPED 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. May be repeated with new content. Maximum credit six units applicable to a master's degree.

SPED 798. Special Study (1-6) Cr/NC/RP
Prerequisites: 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.
CREDENTIAL COURSES

SPED 970. Practicum: Students with Disabilities in General and Special Education (2-4) Cr/NC
Fifteen hours of observation/participation per week.
Prerequisites: Special Education 502 and consent of credential adviser.
Participation in general and special education programs for students with disabilities; supervised by a special educator. Integration and application of skills and knowledge gained in credential coursework. May be repeated in other specialties. Maximum credit four units applicable to each credential program. May be taken only once for credit.
A. Mild/Moderate Disabilities
B. Moderate/Severe Disabilities

SPED 980. Advanced Practicum in Special Education (1-12) Cr/NC
Prerequisite: Consent of credential adviser.
Culminating practicum for Education Specialist Credential. Participation supervised by a special educator. May be repeated in other specialties.
A. Mild/Moderate Disabilities
B. Moderate/Severe Disabilities
D. ECSE: Infant/Preschool

SPED 985. Professional Development: Reflections on Practice (1) Cr/NC
Prerequisite: Completion or concurrent registration in Clear Professional Induction Specialist Credential coursework.
Professional Clear Induction Plans (PCIP): engage in reflective practice including goal setting; prepare portfolio with entries representing Clear Professional Induction Specialist Credential courses and experiences.
Faculty
Rafaela M. Santa Cruz, Ph.D., Associate Professor of Teacher Education, Interim Director of School
Nadine S. Bezuk, Ph.D., Professor of Teacher Education and Associate Dean of the College of Education
Alexander W. Chizhik, Ph.D., Professor of Teacher Education
Ronald W. Evans, Ed.D., Professor of Teacher Education
Margaret A. Gallego, Ph.D., Professor of Teacher Education
Sharan A. Gibson, Ph.D., Professor of Teacher Education, Emeritus
Lisa L. Clement Lamb, Ph.D., Professor of Teacher Education
Valerie O. Pang, Ph.D., Professor of Teacher Education
Cynthia Darche Park, Ph.D., Professor of Teacher Education
Randolph A. Philipp, Ph.D., Professor of Teacher Education
Pamela J. Ross, Ph.D., Professor of Teacher Education, Emeritus
David W. Strom, Ed.D., Professor of Teacher Education, Emeritus
André J. Branch, Ph.D., Associate Professor of Teacher Education
Marva G. Cappello, Ph.D., Associate Professor of Teacher Education
Estella W. Chizhik, Ph.D., Associate Professor of Teacher Education
Luke S. Duesbery, Ph.D., Associate Professor of Teacher Education
Donna L. Ross, Ph.D., Associate Professor of Teacher Education
Meredith E. Vaughn, Ph.D., Associate Professor of Teacher Education

Melissa M. Soto, Ph.D., Assistant Professor of Teacher Education
Cristian Sterling Aquino, Ph.D., Assistant Professor of Teacher Education

Courses Acceptable for Master's Degree Programs in Education (TE)
Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

TE 511. Assessment in Mathematics Education (3)
Techniques to assess and develop students' mathematical understanding. For use by elementary and secondary classroom teachers and mathematics education specialists.

TE 512. Ethnic Identity Development in Education (3)
Prerequisite: Consent of instructor.
Racial and ethnic identity development through curriculum for improving academic achievement of students in K-12 schools. Racial and ethnic socialization of children and identity development of American ethnic groups.

TE 530. Children's/Adolescents' Literature (3)
Survey of children's/adolescents' literature and its incorporation into the classroom curriculum.

TE 596. Topics in Teacher Education (1-3 or 6) RP*
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 bachelor's degree. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

* Specified sections.
Teacher Education

GRADUATE COURSES

TE 600. Curriculum Development in Education (3)
Prerequisite: Consent of instructor.
Advanced study of the research in curriculum development, construction and evaluation.

TE 602A. Seminar: California Clear Teaching Credential (1) Cr/NC
Prerequisite: Preliminary multiple or single subject credential.
Develop professional growth plans designed to provide guidance for inquiry and action research. Applicable to Induction Program for the California Professional Clear Credential.

TE 602B. Seminar: Formative Assessment (3) Cr/NC
Prerequisites: Preliminary multiple or single subject credential and Teacher Education 620A.

TE 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.

TE 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.

TE 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.

TE 630. Seminar in Literacy and Language Arts (3)
Prerequisite: Education 690.
Trends in reading instruction to include developmental sequences in reading skills and abilities, reading in the content fields, individual differences and interests.

TE 631. Seminar in Language Arts (3)
Prerequisite: Valid teaching credential.
Advanced study of problems in teaching language arts. The study of the scientific research and application in the field.

TE 633. Leadership in Literacy Education (3)
Prerequisite: Teacher Education 637.
Planning, presenting, and evaluating professional development activities in literacy education for teachers at the K-12 level.

TE 635. Assessment of Reading and Language Arts (3)
Prerequisites: Valid teaching credential; course in methods and materials for teaching reading.
Theoretical knowledge and practical skill in assessing reading and language arts using both formal and informal measures.

TE 637. Instructional Strategies for Reading and Language Arts (4)
Three lectures and two hours of activity.
Prerequisites: Valid teaching credential; course in methods, materials for teaching reading.
Supervised teaching experience utilizing instructional activities in individual and small group settings.

TE 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.

TE 639. Literacy and Language (3)
Prerequisite: Teacher Education 930 or 933.
Theories of literacy and methods for developing literacy in language, reading and writing. Instructional methods and assessment techniques for children and adults.

TE 640. Planning for Teaching and Assessment in Writing (3)
Prerequisite: Teaching experience.
Comprehensive writing instruction in context of the interactive language arts. Development of plans for curriculum and instruction in diverse classrooms. Examination of multiple assessments and how they inform instruction in K-12 classrooms.

TE 646. Seminar in Educational Measurement (3)
Prerequisites: Graduate standing.
Study of the measurement and assessment of student achievement and evaluation of the education system.

TE 651. History of Social Studies Reform (3)
Prerequisite: Graduate standing.
History and current status of social studies curricula in American schools, K-12. Emphasis on issues, controversies, competing philosophies, historical trends, and applications.

TE 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.

TE 655. Sociocultural Foundations of American Education (2 or 3)
Prerequisite: Admission to teacher education.
Historical and philosophical nature of American schools as it relates to equity, pedagogy, and curriculum. Issues of equity, race, culture, gender, ethnicity, sexual preference, and social issues as they impact the classroom.

TE 677. Research-Based Pedagogy for Diverse Learners (3)
Prerequisite: Admission to Master of Arts in Teaching program.
Research-based pedagogy for diverse learners. Instructional strategies applicable across disciplines.

TE 680. Foundations of Linked Learning (3)
Prerequisite: Teaching credential.
Principles of linked learning and key components and instructional strategies that are part of the approach. Explore research on linked learning and examine key legislation that support linked learning and related high school improvement approaches.

TE 681. Linked Learning Pathway Design and Delivery (3)
Prerequisite: Teaching credential.
Concepts and efforts for building high-quality linked learning pathways. Development of a pathway vision, mission, theme, and student learning outcomes. Effective instructional practices; interventions including academic, behavioral, and health supports; and college and career readiness.

TE 682. Integrated Curriculum Design, Implementation, and Assessment (3)
Prerequisite: Teaching credential.
Planning, creating, and implementing integrated curriculum and assessment for linked learning environments, including defining quality integrated curriculum, best practices in problem-based learning, integration of career technical education, and work-based learning.

TE 683. Work-based Learning: Core Linked Learning Instructional Strategy (3)
Prerequisite: Teaching credential.
Develop professional growth plans designed to provide guidance for inquiry and action research. Applicable to Induction Program for the California Professional Clear Credential.

TE 684. Rethinking Teacher Roles in Linked Learning Pathways (3)
Prerequisite: Teaching credential.
Key elements and principles associated with the linked learning field that are transforming the role of the teacher. How those roles affect pathway continuous improvement and achievement and success for all students.

TE 693. Measuring and Assessing Student Achievement in Schools (3)
Prerequisite: Admission to Master of Arts in Teaching program.
Development of assessments and tests common in instructional and research contexts. Uses and interpretation of assessment data in given differential social/political contexts. Implications for research and instruction.
TE 696. Selected Topics in Teacher Education (1-3)
Prerequisite: Valid teaching credential.
Intensive study in specific areas of teacher education. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

TE 709. Inclusive Education (3)
One lecture and four hours of activity.
Prerequisite: Graduate standing.
Research, theory, and practice of inclusive education to include examination of the politics of disability in the public schools and American society.

TE 736. Field Experience as a Reading Specialist (3)
Prerequisites: Teacher Education 637 and 18 units of core courses. Individual or individually designed practicum for the reading specialist.

TE 779. Action Research in Learning Environments (3)
Prerequisites: Teacher Education 693 and successful completion of 24 units of Master of Arts in Teaching coursework.
Capstone course for Master of Arts in Teaching degree. Action research conducted in students' own teaching environments.

TE 790. Seminar in Teacher Education (3-6)
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. For collaborative induction programs with school districts: May be taken prior to advancement to candidacy for six units; up to 12 units applicable to a master's degree.

TE 798. Special Study (1-6) Cr/NC/RP
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.

CREDENTIAL COURSES

TE 902. Classroom Management Skills (1-2)
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.

TE 903. Secondary School Student Teaching Seminar (1-2) Cr/NC
Prerequisites: Teacher Education 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. See Class Schedule for specific content. Maximum credit four units.

TE 90A. Teaching Mathematics in the Elementary School (1-3)
Prerequisite: Admission to multiple subject credential program, education specialist 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.

TE 90B. Teaching Social Studies in the Elementary School (1-3)
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.

TE 90C. Teaching Science in the Elementary School (1-3)
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.

TE 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. May be repeated with new content. See Class Schedule for specific content.

TE 922. Behavioral and Psychological Aspects of Teaching (1-4)
Prerequisites: 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. May be repeated with new content. See Class Schedule for specific content. Maximum credit four units.

TE 923. Psychological Foundations of Education (1-3)
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.

TE 930. Teaching Reading and Language Arts in the Elementary School (1-6)
Prerequisite: Admission to multiple subject credential program, education specialist credential program, or possession of a teaching credential.
Selecting, designing, and evaluating appropriate learning experiences to assure children's growth in reading and language arts. Includes nature of reading and language arts as a human behavior, various approaches, materials, and techniques used in teaching reading and language arts. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

TE 933. Teaching of Reading in the Secondary School (3)
Prerequisites: Admission to single subject credential program and concurrent registration in Teacher Education 922 and 963.
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.

TE 954. Humanistic and Social Aspects of Teaching (1-4)
Prerequisites: Admission to single subject credential program and concurrent registration in Teacher Education 922 and 963.
Teacher competencies as they relate to values, awareness, self-concept, rights and responsibilities. May be repeated with new content. See Class Schedule for specific content. Maximum credit four units.

TE 960. Basic Student Teaching Seminar (1-2) 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.

TE 961. Advanced Student Teaching Seminar (1-2) 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.

TE 963. Secondary School Student Teaching I (1-6) Cr/NC/RP
Prerequisites: 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.

TE 964. Secondary School Student Teaching II (1-12) Cr/NC/RP
Prerequisites: Teacher Education 922, 933, 954, 963. To be taken concurrently with Teacher Education 903. Student must provide own transportation to student teaching site.
On-site, part-time experience to implement teacher competencies as developed from the total professional sequence. Maximum credit 12 units.

TE 965. Basic Student Teaching in Elementary Schools (1-12) Cr/NC/RP
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.

TE 922. Behavioral and Psychological Aspects of Teaching (1-4)
Prerequisites: 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. May be repeated with new content. See Class Schedule for specific content. Maximum credit four units.

TE 923. Psychological Foundations of Education (1-3)
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.

TE 930. Teaching Reading and Language Arts in the Elementary School (1-6)
Prerequisite: Admission to multiple subject credential program, education specialist credential program, or possession of a teaching credential.
Selecting, designing, and evaluating appropriate learning experiences to assure children's growth in reading and language arts. Includes nature of reading and language arts as a human behavior, various approaches, materials, and techniques used in teaching reading and language arts. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

TE 933. Teaching of Reading in the Secondary School (3)
Prerequisites: Admission to single subject credential program and concurrent registration in Teacher Education 922 and 963.
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.

TE 954. Humanistic and Social Aspects of Teaching (1-4)
Prerequisites: Admission to single subject credential program and concurrent registration in Teacher Education 922 and 963.
Teacher competencies as they relate to values, awareness, self-concept, rights and responsibilities. May be repeated with new content. See Class Schedule for specific content. Maximum credit four units.

TE 960. Basic Student Teaching Seminar (1-2) 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.

TE 961. Advanced Student Teaching Seminar (1-2) 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.

TE 963. Secondary School Student Teaching I (1-6) Cr/NC/RP
Prerequisites: 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.

TE 964. Secondary School Student Teaching II (1-12) Cr/NC/RP
Prerequisites: Teacher Education 922, 933, 954, 963. To be taken concurrently with Teacher Education 903. Student must provide own transportation to student teaching site.
On-site, part-time experience to implement teacher competencies as developed from the total professional sequence. Maximum credit 12 units.

TE 965. Basic Student Teaching in Elementary Schools (1-12) Cr/NC/RP
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.
TE 966. Advanced Student Teaching in Elementary Schools (1-12) Cr/NC/RP
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.

TE 967. Elementary School Student Teaching (15) Cr/NC
(Offered only at IVC)
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.

TE 968. Secondary School Student Teaching (15) Cr/NC
(Offered only at IVC)
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.

TE 969. Clinical Practice for Induction (4) Cr/NC
Prerequisite: Admission to College of Education induction program.
Mentor-supported field experience for novice teachers in fully-accredited K-12 schools. Practicing advanced teaching strategies. Assessment of teacher performance based on evidence of student learning and outcomes. May be repeated with new content. See Class Schedule for specific content. Maximum credit 16 units.

Educational Technology
Refer to “Learning Design and Technology” in this section of the bulletin.

Electrical and Computer Engineering
Refer to “Engineering” in this section of the bulletin.
SDSU Graduate Bulletin 2017-2018

In the College of Engineering

Section I.
Master's Degree Programs

Master of Science Degree

Admission to Graduate Study

All students must satisfy the general requirements for admission to the Division of Graduate Affairs 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 2.85 (where A equals 4) in the last 60 semester (90 quarter) units of technical study attempted in the undergraduate degree program. In addition, applicants must have a bachelor's degree in a field of engineering appropriate to the field in which they desire to earn an advanced degree or in a field closely related thereto from an institution acceptable to the College of Engineering and the Division of Graduate Affairs. If undergraduate preparation is deemed insufficient, the student will be required to take specified courses for the removal of the deficiency. Such courses may be in addition to the minimum of 30 units for the master's degree in engineering. Students graduating from foreign universities need a cumulative grade point average of 3.0 or better.

Students should contact their specific engineering department for GRE test requirements. Letters of recommendation for graduate study are helpful but optional.

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.

All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the College of Engineering (refer to the appropriate department section for the address to submit additional information).

Graduate Admissions

The following materials should be submitted as a complete package directly to:

- Graduate Admissions
- Enrollment Services
- San Diego State University
- San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended:

- Students who attended SDSU need only submit transcripts for work completed since last attendance.
- Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

(2) GRE scores (http://www.ets.org SDSU institution code 4682);

(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

College of Engineering

The following materials should be mailed or delivered to the appropriate address listed in each department section:

(1) Personal statement of graduate program goals;

(2) Letters of recommendation (optional).

Advancement to Candidacy

All students must meet the general requirements for advancement to candidacy as described in Part Four 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 Four 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 coursework, in conference with their graduate adviser, according to the following requirements for the specific degree.

Aerospace Engineering

(Major Code: 09021) (SIMS Code: 441001)

General information: The Department of Aerospace Engineering 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 analysis and design, composite materials and structures, fluid-structure interactions, structural dynamics, aeroelasticity, and aircraft and spacecraft stability and control.

The following materials should be mailed or delivered to:

Dr. Satchi Venkataraman, Graduate Adviser
Department of Aerospace Engineering
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-1308

(1) Personal statement of graduate program goals;

(2) Letters of recommendation (optional).
### Engineering

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

1. Twenty-one units of 600-700-numbered courses in aerospace engineering. At least six units must be taken in the Aerospace Engineering specialization. At least one course must be taken 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**

1. **Aerodynamics/Astronautics**
   (Major Code: 09021) (SIMS Code: 441003)
   - A E 601 Computational Fluid Mechanics (3)
   - A E 612 Compressible Fluid Flow (3)
   - A E 620 Incompressible Aerodynamics (3)
   - A E 644 Turbulent Flow (3)

2. **Structural Mechanics**
   (Major Code: 09021) (SIMS Code: 441070)
   - A E 600 Seminar (1-3)
   - A E 611 Vibration of Elastic Solids (3)
   - A E 621 Theory of Elasticity (3)
   - A E 641 Structural Optimization (3)
   - A E 651 Theory of Elastic Stability (3)
   - A E 731 Aeroelasticity (3)

**Bioengineering**

(Major Code: 09051) (SIMS Code: 446001)

**General information:** The College of Engineering offers graduate study leading to the Master of Science degree in bioengineering. The M.S. in bioengineering seeks to provide both an advanced degree for students to enter the biotechnology and medical device industries as well as preparation for further study in bioengineering or medicine. Current areas of specialization are biomechanics, biomaterials, and bioinstrumentation.

The following materials should be mailed or delivered to:
Bioengineering Graduate Adviser
College of Engineering, Room 326
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-1323

1. Personal statement of graduate program goals;
2. Letters of recommendation (optional).

**Specific requirements for the degree:** The student's program will be prepared in conference with and approved by the bioengineering graduate adviser. Students take a "core" of courses required for their specialization, and additional courses and electives as listed below. Students without prerequisites for the required courses may need to take additional courses outside the 30 units needed for the degree. The student's program of study must satisfy the following requirements:

1. Students select a specialization in biomechanics, biomaterials, or bioinstrumentation in consultation with the bioengineering graduate adviser.
2. A total of 30 units, consisting of five required 500-, 600-, and 700-level core courses (15-16 units) corresponding to the specialization, 6-9 units of Research (M E 797/E E 797), Thesis (M E 799A/E E 799A), or Special Study (M E 798/E E 798), and electives selected from the list below.
3. A thesis project is required.
4. Demonstration of prior coursework equivalent to a core course will enable substitution of an elective chosen in consultation with the bioengineering graduate adviser.
5. At least 15 units of coursework (excluding 797, 798, 799 courses) must be from Engineering.
6. At least 12 units of coursework (excluding 797, 798, 799 courses) must be 600- or 700-level courses.

**Core Courses:**

### Biomechanics

(Major Code: 09051) (SIMS Code: 446002)

- BIOL 590 Physiology of Human Systems (4)
- M E 580 Biomechanics (3)
- M E 610 Finite Element Methods in Mechanical Engineering (3)
- M E 681 Biomaterials (3)
- M E 685/ Micro-Electro-Mechanical Systems (MEMS) Design and Applications (3)

### Biomaterials

(Major Code: 09051) (SIMS Code: 446003)

- BIOL 585 Cellular and Molecular Immunology (3)
- M E 540 Nonmetallic Materials (3)
- M E 681 Biomaterials (3)
- M E 685/ Micro-Electro-Mechanical Systems (MEMS) Design and Applications (3)

### Bioinstrumentation

(Major Code: 09051) (SIMS Code: 446004)

- BIOL 590 Physiology of Human Systems (4)
- E E 503 Biomedical Instrumentation (3)
- M E 685/ Micro-Electro-Mechanical Systems (MEMS) Design and Applications (3)
- M E 580 Biomechanics (3)

**Electives:**

- A E 601 Computational Fluid Mechanics (3)
- A E 621 Theory of Elasticity (3)
- BIOL 585 Cellular and Molecular Immunology (3)
- BIOL 590 Physiology of Human Systems (4)
- BIOL 597A Univariate Statistical Methods in Biology (3)
- CHEM 712 Chemical Kinetics (3)
- CHEM 751 Separations Science (3)
- E E 502 Electronic Devices for Rehabilitation (3)
- E E 503 Biomedical Instrumentation (3)
- ENS 610 Biomechanics: Measurement Techniques I-Kinematics (3)
- ENS 611 Biomechanics: Measurement Techniques II-Kinetics (3)
- ENS 612 Biomechanics: Measurement Techniques III-EMG (3)
- ENS 613 Motor Control and Rehabilitation Science (3)
- ENV E 554 Process Fundamentals of Environmental Systems (3)
- ENV E 648 Biological Processes and Bioremediation Engineering (3)
- M E 540 Nonmetallic Materials (3)
- M E 580 Biomechanics (3)
- M E 610 Finite Element Methods in Mechanical Engineering (3)
- M E 645 Mechanical Behavior of Engineering Materials (3)
- M E 656 Conduction Heat and Transfer (3)
- M E 681 Biomaterials (3)
- M E 683 Design of Medical Devices (3)
- PHYS 670A Medical Physics I (3)
- PHYS 670B Medical Physics II (3)
B.S. in Mechanical Engineering and M.S. in Bioengineering

(Major Code: 09051) (SIMS Code: 446005)

Students must complete 158 units to be simultaneously awarded the Bachelor of Science degree in mechanical engineering and the Master of Science degree in bioengineering. Students can apply for admission to the BS/MS 4+1 degree program (B.S. in mechanical engineering and M.S. in bioengineering) when they have successfully completed a minimum of 90 units or a maximum of 115 units. These units must count towards one or the other of the two SDSU degree programs (BS or MS) that will ultimately be awarded in the dual degree program. All students must have a satisfactory score (minimum of 308 for combined verbal and quantitative on the Graduate Record Examination (GRE) General Test) and a minimum overall GPA of 3.0.

To satisfy the requirements for the BS/MS 4+1 degree program (B.S. in mechanical engineering and M.S. in bioengineering), students must achieve at least a 3.0 average in the 30 units of courses used to satisfy the graduate program of study. Of the 30 units, a maximum of nine units may be in 500-numbered mechanical engineering electives and all other program requirements must be satisfied. Three 500-level courses may be used to fulfill the elective requirements for the BS/MS 4+1 degree program at the same time as serving as prerequisite coursework for graduate study. For the BS/MS 4+1 degree program (B.S. in mechanical engineering and M.S. in bioengineering), students must take M E 580 and 585 for the biomechanics specialization; M E 580, 540 or 543, and 585 for the biomaterials specialization. The bioinstrumentation specialization is not open to students in the BS/MS 4+1 degree program (B.S. in mechanical engineering and M.S. in bioengineering). Upon successful completion of the BS/MS 4+1 degree program, students will receive the B.S. degree in mechanical engineering with an emphasis in bioengineering and M.S. degree in bioengineering.

Civil Engineering

(Major Code: 09081) (SIMS Code: 442001)

General information: The Department of Civil, Construction, and Environmental Engineering offers graduate study leading to the Master of Science degree in civil engineering. Available areas of study include a concentration in environmental engineering and specializations in construction engineering, geotechnical engineering, structural engineering, transportation engineering, and water resources 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. Selected students in the program may be offered graduate teaching associateships. Experience as a graduate teaching associate can help prepare students for part-time or full-time teaching careers. Applicants with a bachelor's degree in an approved non-engineering curriculum must make up the deficiencies in biology, calculus, chemistry, computer skills, differential equations, fluid mechanics and hydraulics, physics, statics and dynamics, statistics, and thermodynamics, as determined by the graduate adviser.

The following materials should be mailed or delivered to:
Dr. Temesgen Garoma Araarso, Graduate Adviser
Department of Civil, Construction, and Environmental Engineering
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-1324

(1) Personal statement of graduate program goals;
(2) Letters of recommendation (optional).

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. General requirements: 21 units of coursework.
   a. A minimum of 12 units selected from one of the areas of specialization in civil engineering; in exceptional cases, this requirement may be waived at the discretion of the graduate adviser, provided the substitute course is in the College of Engineering and enhances a coherent program in a specific professional area.
   b. Eighteen units of 600- and 700-level courses in civil engineering and/or construction engineering. No more than three units from courses numbered 797, 798, and 799 may be used to satisfy this requirement.

2. Culminating experience (nine additional units):
   a. Thesis students: Three units of 797, three units of 798, and three units of 799A.
   b. Non-thesis students: Six units of 500-, 600-, or 700-level courses and three units of 797 or 798 (additional units of 797 or 798 may be completed with approval of graduate adviser).

3. The total number of 500-, 600-, or 700-level units may not exceed 12 units outside the department.

Areas of Specialization in Civil Engineering

1. Construction Engineering

(Major Code: 09081) (SIMS Code: 442030)
CON E 650 Construction Labor Productivity (3)
CON E 651 Project Production System Design in Construction (3)
CON E 652 Construction Operations Modeling and Technology (3)
CON E 654 Construction Claims (3)
CON E 655 Project Design and Portfolio Management (3)

2. Geotechnical Engineering

(Major Code: 09081) (SIMS Code: 442025)
CIV E 640 Advanced Soil Mechanics (3)
CIV E 641 Advanced Foundation Engineering (3)
CIV E 642 Groundwater Seepage and Earth Dams (3)
CIV E 644 Soil Dynamics (3)

3. Structural Engineering

(Major Code: 09081) (SIMS Code: 442075)
CIV E 606 Prestressed Concrete Structures (3)
CIV E 607 Dynamics of Structures (3)
CIV E 608 Earthquake Engineering (3)
CIV E 610 Finite Element Analysis of Structures (3)
CIV E 612 Advanced Concrete Materials (3)

4. Transportation Engineering

(Major Code: 09081) (SIMS Code: 442085)
CIV E 620 Traffic Flow and Control (3)
CIV E 621 Transportation Demand Analysis (3)
CIV E 622 Mass Transit Engineering (3)
CIV E 781 Seminar in Transportation Engineering (2 or 3)

5. Water Resources Engineering

(Major Code: 09081) (SIMS Code: 442096)
CIV E 631 Spatial Hydrology (3)
CIV E 632 Computational Hydraulics and Hydrology (3)
CIV E 633 Environmental Hydrology (3)
CIV E 634 Surface Water Hydrology (3)
CIV E 638 Sedimentation Engineering (3)

Concentration in Environmental Engineering

(Major Code: 09221) (SIMS Code: 442005)

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

1. General requirements: 21 units of coursework.
   a. Fifteen units selected from the required courses listed below; in exceptional cases, this requirement may be waived at the discretion of the graduate adviser, provided the substitute course is in a specified professional area.
   b. Eighteen units of 600- and 700-level courses in civil engineering and environmental engineering. No more than three units in Environmental Engineering 797 and no more than three units in Environmental Engineering 798.

2. Culminating experience (nine additional units):
   a. Thesis students: Three units of Environmental Engineering 797, three units of Environmental Engineering 798, and three units of Environmental Engineering 799A.
   b. Non-thesis students: Six units of 500-, 600-, or 700-level courses and three units of Environmental Engineering 797 or 798 (additional units of Environmental Engineering 797 or 798 may be completed with approval of graduate adviser).

3. The total number of 500-, 600-, or 700-level units may not exceed 12 units outside the department.
Electrical Engineering (Major Code: 09091) (SIMS Code: 443001)

General information: The Department of Electrical and Computer Engineering offers graduate study leading to the Master of Science degree in Electrical Engineering. The program provides balanced opportunities to study practical engineering design and do research.

Specific requirements for the degree: Completion of 30 units of 500-, 600-, or 700-level courses to include one of two options: Plan A (Thesis) or Plan B (Comprehensive Examination). Students are required to plan their program of study and have it approved by the graduate adviser to satisfy the depth and breadth course requirements.

1. Depth Requirement: Students are required to declare their depth area and complete a specific set of approved courses. The depth area includes but is not limited to communication systems, computer networks, digital signal processing, electromagnetics systems, embedded systems, energy systems and controls, and VLSI and digital systems.

2. Breadth Requirement: Students are required to complete a specific number of approved courses from areas other than the declared depth area.

3. Requirements for Plan A (Thesis): Students are required to take six units of Electrical Engineering 797 (Research) and three units of Electrical Engineering 799A (Thesis). The remaining 21 units can be taken from the selected depth area or from breadth courses, subject to the approval of the thesis adviser and graduate adviser. Credit for Electrical Engineering 797 will be given only after completing the thesis. Credit cannot be given for Electrical Engineering 799A for students in Plan A.

4. Requirements for Plan B (Comprehensive Examination): Students are required to take 18 units from a selected depth area and nine units of breadth courses. The remaining three units can be taken from the depth area or from a breadth course. Electrical Engineering 797 (Research) cannot be used as one of the required courses. Students taking Plan B must pass a comprehensive examination. The examination tests the understanding and mastery of fundamental principles and ability to apply them to engineering problems. Faculty from the Department of Electrical and Computer Engineering will grade the comprehensive examination for technical correctness, completeness, and clarity of expression. After two unsuccessful attempts, the student may not take the examination without written permission from the graduate adviser. The graduate adviser may require the student to successfully complete certain additional courses before taking the comprehensive examination for a third and final time.

Plan B students intending to take the comprehensive examination, but no course, must register in Electrical Engineering 799C during the semester.

For the availability of the courses, research areas, and other information related to the graduate program, refer to the Department of Electrical and Computer Engineering website at http://electrical.sdsu.edu.

Mechanical Engineering (Major Code: 09101) (SIMS Code: 447001)

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, mechanics of materials, vibration, controls, CAD/CAM and robotics, materials, optimization and bioengineering.

The following materials should be mailed or delivered to:
Mechanical Engineering Graduate Adviser
Department of Mechanical Engineering, Room 326
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-1323

1. Personal statement of graduate program goals;
2. Letters of recommendation (optional).

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 coursework:
   a. Twelve units in one area of specialization (designated as Group A, B, or C), with no more than six units of 500-level courses.
   b. Nine additional units of 500-, 600-, or 700-level courses (excluding M E 797, 798, 799A, 799B, 799C) selected in consultation with the graduate adviser.
   c. At least 15 units of coursework (excluding M E 797, 798, 799A, 799B, 799C) from mechanical engineering.

2. Nine additional units:
   a. Thesis students: Six units of M E 797 and three units of 799A or 799B (thesis).
   b. Non-thesis students: Three units of M E 797 and six units of 500-, 600-, or 700-level courses from mechanical engineering.

3. The total number of units from 500-level courses should not exceed nine.

Group A: Design and Manufacturing (Major Code: 09101) (SIMS Code: 447071)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>M E 543</td>
<td>Powder-Based Manufacturing (3)</td>
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<tr>
<td>M E 555</td>
<td>Energy and Thermal Systems Analysis and Design (3)</td>
</tr>
<tr>
<td>M E 580</td>
<td>Biomechanics (3)</td>
</tr>
<tr>
<td>M E 585</td>
<td>Fundamentals of Micro-Electro-Mechanical Systems (MEMS) (3)</td>
</tr>
<tr>
<td>M E 596</td>
<td>Advanced Mechanical Engineering Topics (related to Design and Manufacturing) (3)</td>
</tr>
<tr>
<td>M E 610</td>
<td>Finite Element Methods in Mechanical Engineering (3)</td>
</tr>
<tr>
<td>M E 645</td>
<td>Mechanical Behavior of Engineering Materials (3)</td>
</tr>
<tr>
<td>M E 646</td>
<td>Mechanics of Sintering (3)</td>
</tr>
<tr>
<td>M E 683</td>
<td>Design of Medical Devices (3)</td>
</tr>
<tr>
<td>M E 685</td>
<td>Micro-Electro-Mechanical Systems (MEMS) (3)</td>
</tr>
<tr>
<td>M E 685</td>
<td>Design and Applications (3)</td>
</tr>
<tr>
<td>M E 696</td>
<td>Advanced Topics in Mechanical Engineering (related to Design and Manufacturing) (3)</td>
</tr>
<tr>
<td>A E 621</td>
<td>Theory of Elasticity (3)</td>
</tr>
<tr>
<td>A E 641</td>
<td>Structural Optimization (3)</td>
</tr>
</tbody>
</table>
Group B: Dynamics and Control
(Major Code: 09101) (SIMS Code: 447072)
M E 520 Introduction to Mechanical Vibrations (3)
M E 530 Automatic Control Systems (3)
M E 596 Advanced Mechanical Engineering Topics
(related to Dynamics and Control) (3)
M E 696 Advanced Topics in Mechanical Engineering
(related to Dynamics and Control) (3)

Group C: Energy and Thermofluids
(Major Code: 09101) (SIMS Code: 447073)
M E 555 Energy and Thermal Systems Analysis and Design (3)
M E 556 Solar Energy Conversion (3)
M E 596 Advanced Mechanical Engineering Topics
(related to Energy and Thermofluids) (3)
M E 651 Advanced Thermodynamics (3)
M E 653 Combustion (3)
M E 656 Conduction Heat and Transfer (3)
M E 657 Convection Heat Transfer (3)
M E 658 Radiation Heat Transfer (3)
M E 661 Gas Dynamics (3)
M E 696 Advanced Topics in Mechanical Engineering
(related to Energy and Thermofluids) (3)
A E 601 Computational Fluid Mechanics (3)
A E 612 Compressible Fluid Flow (3)
A E 644 Turbulent Flow (3)

Group D: Materials and Mechanics
(Major Code: 09101) (SIMS Code: 447074)
M E 520 Introduction to Mechanical Vibrations (3)
M E 540 Nonmetallic Materials (3)
M E 543 Powder-Based Manufacturing (3)
M E 580 Biomechanics (3)
M E 596 Advanced Mechanical Engineering Topics
(related to Materials and Mechanics) (3)
M E 610 Finite Element Methods in Mechanical Engineering (3)
M E 646 Mechanical Behavior of Engineering Materials (3)
M E 646 Mechanics of Sintering (3)
M E 681 Biomaterials (3)
M E 696 Advanced Topics in Mechanical Engineering
(related to Materials and Mechanics) (3)
A E 621 Theory of Elasticity (3)
A E 641 Structural Optimization (3)

**Mechanical Engineering**

**BS/MS 4+1 Degree Program**

(Major Code: 09101)

Students must complete 155 units to be simultaneously awarded the Bachelor of Science degree in mechanical engineering and the Master of Science degree in mechanical engineering. Students can apply for admission to the BS/MS 4+1 degree program when they have successfully completed a minimum of 90 units or a maximum of 115 units. These units must count towards one or the other of the two SDSU degree programs (BS or MS) that will ultimately be awarded in the dual degree program. All students must have a satisfactory score [minimum of 308 for combined verbal and quantitative on the Graduate Record Examination (GRE) General Test] and a minimum overall GPA of 3.0.

To satisfy the requirements for the BS/MS 4+1 degree program (B.S. and M.S. in mechanical engineering), students must achieve at least a 3.0 average in the 30 units of courses used to satisfy the graduate program of study. Of the 30 units, a maximum of nine units may be in 500-level mechanical engineering electives and all other program requirements must be satisfied. Three 500-level courses may be used to fulfill the elective requirements for the BS/MS 4+1 degree program (B.S. and M.S. in mechanical engineering) at the same time as serving as prerequisite courses for graduate study. The BS/MS 4+1 degree program (B.S. and M.S. in mechanical engineering) allows students to use any three 500-level mechanical engineering courses toward their graduate degree. Students in the BS/MS 4+1 degree program (B.S. and M.S. in mechanical engineering) must follow the thesis option. Upon successful completion of the BS/MS 4+1 degree program, students will receive the B.S. degree in mechanical engineering and M.S. degree in mechanical engineering.

**Master of Engineering Degree**

(Major Code: 09134) (SIMS Code: 444050)

**General Information**

The Master of Engineering degree is a practice-oriented, interdisciplinary degree designed to meet the needs of students who are interested in furthering a career in engineering with a business/management emphasis. The student will select his/her own program in consultation with the program adviser of the respective department subject to the guidelines listed below. In addition to the course requirements, the student is required to complete a design project and a final written report. This phase of the program introduces the student to the problems and solutions faced by practicing engineers. The program is designed for both the industrial professional who is seeking a career enhancement and also to the new baccalaureate graduate who wants to continue to study in order to be able to enter the work force with well-defined and honed professional skills.

This program is administered by the graduate adviser. The faculty responsible for directing this program are:

Dr. Janusz C. Supernak, Professor and Interim Chair, Department of Civil, Construction, and Environmental Engineering

Dr. Chunting Mi, Chair, Department of Electrical and Computer Engineering

Dr. Ping Lu, Chair, Department of Aerospace Engineering

Dr. John Abraham, Chair, Department of Mechanical Engineering

Dr. Ping Lu, Chair, Department of Aerospace Engineering

In addition to sending materials to Graduate Admissions, the following should also be mailed or delivered to:

- Graduate Adviser
- Master of Engineering Program
- College of Engineering
- San Diego State University
- 5500 Campanile Drive
- San Diego, CA 92182-1326

(1) Personal statement of graduate program goals;
(2) Letters of recommendation (optional).

**Admission to Graduate Study**

All students must satisfy the general requirements for admission to the Division of Graduate Affairs with classified graduate standing as described in Part Two of this bulletin. Candidates must have attained an undergraduate grade point average of at least 2.85 (4 point scale) in the last 60 semester (90 quarter hours) of technical study. In addition, applicants must have a bachelor’s degree in engineering or a closely related discipline. If undergraduate preparation is deemed insufficient, the student will be required to take specified undergraduate courses to remove this deficiency. Such courses may be in addition to the 36 units required. Admission to the program will be limited to applicants whose background, interest, and expertise are consistent with the demands of the design projects.

**Specific Requirements for Master of Engineering Degree**

In addition to meeting the requirements for classified graduate standing, the student must satisfy the basic requirements for the master’s degree as described in Part Four of this bulletin. The student must also complete a graduate program of 36 units to include 18 units of graduate engineering courses, 12 units of graduate business courses, and six units of project registered under Engineering 798. The courses in engineering and business administration are selected in consultation with the graduate adviser. With the consent of the
Engineering

adviser, one unit of 798, with appropriate content, may be substituted for one unit in business administration. No more than a total of seven units of 798 will be accepted for credit towards the degree.

The industry-oriented design project is to be selected in cooperation with the graduate adviser in the area of interest. Typically, the students take this project at the end of the program of study as a culminating experience integrating engineering and business knowledge attained through coursework and experience. A formal written report of project findings will be submitted and approved by a committee of two engineering faculty members and one faculty member from business administration.

Section II.
Doctoral Programs
http://www.engineering.sdsu.edu/engineering/joint_doctoral_program.aspx

Engineering Sciences
(Bioengineering)
(Major Code: 09051) (SIMS Code: 446006)
(Electrical and Computer Engineering)
(Major Code: 09095) (SIMS Code: 443050)
(Mechanical and Aerospace Engineering)
(Major Code: 19020) (SIMS Code: 444021)
(Structural Engineering)
(Major Code: 09084) (SIMS Code: 442501)

The cooperating faculties of the College of Engineering at San Diego State University and the Jacobs School of Engineering at the University of California, San Diego offer joint doctoral programs in bioengineering, electrical and computer engineering, mechanical and aerospace engineering, and structural engineering. The Doctor of Philosophy degree is awarded jointly by the Trustees of the California State University and the Regents of the University of California in the names of both cooperating institutions.

The Ph.D. degree 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 five to six years of full-time study and research. A student with advanced standing may complete the program in a shorter period of time.

The joint Doctor of Philosophy degree allows research specialties in the following: bioengineering (molecular biomechanics and cell/tissue engineering with a focus in cell-matrix engineering); electrical and computer engineering (communication theory and systems; computer engineering; electronic circuits and systems; intelligence systems, robotics and control; photonics; and signal and image processing); mechanical and aerospace engineering (applied mechanics, materials science, materials processing, computational fluid mechanics, combustion, experimental fluid mechanics); structural engineering (finite element methods in structural analysis, soil mechanics).

Program Administration
San Diego State University:
Program Director: Eugene A. Olevsky
University of California, San Diego:
Program Director: Enrique Luco

Financial Support
Students admitted to the program will be eligible for teaching associations 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, 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 Joint Doctoral Program at the College of Engineering, San Diego State University, San Diego, CA 92182-1326.

Program
Preparation for Admission
Applicants must have an acceptable bachelor’s degree or master’s degree and must meet the requirements for admission to both SDSU and UCSD. A minimum grade point average of 3.0 in the major field for students with the B.S. degree or 3.5 for students with the M.S. degree is required. Students are expected to have engineering degrees in the classical engineering sciences/applied mechanics areas (i.e., aerospace, chemical, civil, environmental, mechanical). Students with degrees in one of the allied fields (i.e., physics, mathematics, 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 FOR THE PH.D. PROGRAM IN ENGINEERING SCIENCES MUST BE RECEIVED NO LATER THAN FEBRUARY 15.

Application
The faculty of the joint doctoral program on each campus will recommend admission of acceptable applicants to the graduate deans at SDSU and UCSD. Entry occurs when the student is formally accepted by both graduate deans and the student is officially notified of the acceptance.

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.

All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the College of Engineering.

Graduate Admissions
The following materials should be submitted as a complete package directly to:
Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;
   NOTE:
   • Students who attended SDSU need only submit transcripts for work completed since last attendance.
   • Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

(2) GRE scores (http://www.ets.org SDSU institution code 4682);
(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

College of Engineering
The following materials should be mailed or delivered to:
Director, Engineering Joint Doctoral Program
College of Engineering
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-1326

(1) Three letters of recommendation.

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 Divisions of Graduate Affairs of SDSU and UCSD.

Advising Committee
When a student is admitted to the joint doctoral program, the director of the joint doctoral programs in engineering at UCSD and the director of the joint doctoral programs in engineering 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 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 director of the joint doctoral program at UCSD and the director of the joint doctoral program at SDSU, the membership of the student's doctoral committee. Upon appointment, this committee will supersede the advising committee and be responsible for the student's program of study and dissertation research.

Course Requirements

The Doctor of Philosophy degrees in engineering sciences (bioengineering, electrical and computer engineering; mechanical and aerospace engineering; structural engineering) are research degrees and represent both attainment of advanced knowledge and demonstration of research skills. Therefore, no specific course requirements for the joint doctoral programs exist; however, the doctoral qualifying examination is based on a certain level of competence in the general areas of each degree. Preparation for the examination is normally done through coursework in these areas.

Qualifying Examinations

Joint Qualifying Committee

The doctoral program qualifying examination is administered by the student's advising committee supplemented, if appropriate, by faculty appointed by the director of the joint doctoral programs in engineering at UCSD and the director of the joint doctoral programs in engineering at SDSU. The examination will be oral and will be at the level and content of the SDSU and UCSD graduate courses. The specific areas will be approved in advance by the director of the joint doctoral programs in engineering at UCSD and the director of the joint doctoral programs in engineering at SDSU. 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 Doctoral Committee

Upon successful completion of the doctoral qualifying examination, a doctoral committee shall be appointed by the graduate dean at SDSU and UCSD upon the recommendation of the director of the joint doctoral programs in engineering at UCSD and the director of the joint doctoral program in engineering at SDSU. The doctoral committee shall supervise the continued study and research programs of the student. The chair of the committee is the primary adviser of the student's dissertation research. The dissertation committee will consist of three members from each institution; one of the three will be from outside of the respective UCSD department and one from outside the student's major area.

Senate Qualifying Examination

The major requirement for the doctorate is the completion of a dissertation based on original research, which 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 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 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 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 Division of Graduate Affairs 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 degrees in engineering sciences/applied mechanics, bioengineering, electrical and computer engineering, and structural engineering will be awarded jointly by the Trustees of the California State University and the Regents of the University of California in the names of both cooperating institutions.

Faculty

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

San Diego State University:

- Program Director: Eugene A. Olevsky
- Committee Members, Structural Engineering: S. Kassegne, K. May-Newman.

University of California, San Diego:

- Program Director: Enrique Luco
- Committee Members, Bioengineering:
- Committee Members, Electrical and Computer Engineering:
- Committee Members, Structural Engineering:

Section III.

Certificate Program

Rehabilitation Technology Certificate

(SIMS Code: 444070)

The purpose of this certificate is to train interested engineers and non-engineers in the field of rehabilitation technology using formal classroom instruction, project design and fabrication, and internship. Enrollment in this certificate program will provide interested engineering students exposure to rehabilitation technology. For non-engineering rehabilitation professionals (e.g. vocational rehabilitation counselors, special education teachers, transition and supported employment specialists), the certificate program will provide specialty training in the application of rehabilitation technology. Specifically, the certificate program will do the following:

1. Expose graduate engineering students to the problems and promises of rehabilitation engineering as a field of specialization.
2. Provide a number of interrelated training activities that will improve the professional competence of employed rehabilitation workers.
3. Provide opportunities for extensive training, in the form of extended internships with knowledgeable rehabilitation professionals whose backgrounds are in such specializations as biomechanics, physical and occupational therapy, prosthetics and orthotics, rehabilitation counseling, rehabilitation electronics, rehabilitation engineering, special education, speech, language, and hearing sciences, etc.

4. Offer both formal classroom instruction and guided problem solving opportunities in designing, building, customizing, and delivering rehabilitation technology for enhancing the integration of individuals with disabilities into school, residential, community, and employment settings.

This is an advanced trans-disciplinary academic certificate at the postbaccalaureate level. Admission requirements include a bache-
lor's degree in engineering, rehabilitation, or special education, or a related allied health field. Students admitted into the program must maintain a minimum grade point average of 3.0 in all certificate coursework with no less than a grade of C in all courses. Depending on the background and work experience, students may be required to remove deficiencies through additional coursework as part of the certificate requirements.

Students in the certificate program will complete 12 units of formal coursework and one semester of internships as described below unless alternative courses are approved by the program advisors.

**Electrical Engineering 502 (Electronic Devices for Rehabilitation - 3 units)** will acquaint students with the design and application of electronic devices used in rehabilitation; explain the problems of the disabled; and present possible solutions for some of their needs. This is a non-traditional and practical electrical engineering course that requires student involvement in the collaborative assessment (with students in Speech, Language, and Hearing Sciences 676) of disabilities and their cognitive, communicative, and physical abilities at the SDSU Communications Clinic.

**Administration, Rehabilitation and Postsecondary Education 607 (Applications of Rehabilitation Technology - 3 units)** will provide an overview of assistive technology in the areas of assessment, accessibility, mobility, communication, employment, and more. Students will collaborate on transdisciplinary teams to design and construct an adaptation or modification which will enable a person with disabilities to participate more fully in school, work and/or community environments.

**Administration, Rehabilitation and Postsecondary Education 685A or 685B (Medical and Psychological Aspects of Disability - 3 units)** will cover the impact of different disabilities (e.g., visual and sensory impairments, orthopedic impairments, burns, amputation, chronic pain, cancer, developmental and learning disabilities, traumatic brain injuries, and spinal cord injuries) in terms of functional limitations, rehabilitative services needed, and environmental adjustments required.

**Electrical Engineering 798 (Special Study in Rehabilitation Technology Design - 3 units)** will provide students hands-on opportunities to work with rehabilitation professionals, occupational and physical therapists, and other non-engineers on technology teams in the design and fabrication of customized adaptations for persons with disabilities.

**Internships (one semester)** will provide guided field experience through placement with knowledgeable practicing rehabilitation professionals in settings as the Sharp Rehabilitation Center, Assistive Device Assessment Program within the SDSU Communications Clinic-Alvarado, Access Center of San Diego, and San Diego schools.

For application and additional information, contact the program adviser Dr. Andrew Szeto in the Department of Electrical and Computer Engineering or Dr. Caren L. Sax in the Department of Administration, Rehabilitation and Postsecondary Education.

### Courses Acceptable for Master’s and Doctoral Degree Programs in Engineering (ENGR)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

**GRADUATE COURSES**

**ENGR 795. Internship/Practicum (1) Cr/NC**
Prerequisite: Twenty-seven units of graduate level coursework in the Master of Engineering program and consent of graduate adviser.
Supervised internship or practicum experience with approval of graduate adviser. Not applicable to an advanced degree. Maximum credit three units.

**ENGR 797. Research (1-3) Cr/NC/RP**
Prerequisite: Consent of instructor.
Research in engineering. Maximum credit six units applicable to a master's degree.

**ENGR 798. Special Study (1-6) Cr/NC/RP**
Prerequisite: Graduate standing and consent of Associate Dean of College of Engineering.
Individual study. Maximum credit six units applicable to Master of Engineering degree.

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

**ENGR 799B. Project Extension (0) Cr/NC**
Prerequisite: Prior registration in Project 799A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP 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 project is granted final approval.

**ENGR 799C. Comprehensive Examination Extension (0) Cr/NC**
Prerequisite: Completion or concurrent enrollment in degree program courses.
Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree.

### DOCTORAL COURSES

**ENGR 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.

**ENGR 810. Colloquium in Engineering Sciences (1) Cr/NC/RP**
Prerequisite: Admission to the doctoral program.
Discussions on advances in research in engineering science/applied mechanics conducted by SDSU and UCSD faculty.

**ENGR 897. Doctoral Research (1-15) Cr/NC/RP**
Prerequisite: Admission to the doctoral program.
Independent research in general areas of applied mechanics. Content to be determined after consultation with adviser.

**ENGR 898. Doctoral Special Study (1-3) Cr/NC/RP**
Prerequisite: Advancement to candidacy.
Individual study leading to study and research required for doctoral dissertation.

**ENGR 899. Doctoral Dissertation (3-15) Cr/NC/RP**
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
In the College of Engineering

UPPER DIVISION COURSES

A E 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 Engineering Mechanics 510.)

A E 515. Methods of Analysis (3)
Prerequisite: Aerospace Engineering 280 with minimum grade of C.
Selected topics from vector calculus, partial differential equations, and complex analysis, with engineering applications. (Formerly numbered Engineering 510.)

A E 520. Intermediate Aerospace Flight Mechanics (3)
Prerequisite: Aerospace Engineering 320.
Rigid-body dynamics with applications in spacecraft attitude dynamics.

A E 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.

A E 535. Mechanics of Composite Structures (3)
(Same course as Mechanical Engineering 535)
Prerequisites: Aerospace Engineering 280 and Aerospace Engineering 310 or Mechanical Engineering 314.
Micro- and macro-mechanics of composite materials, classical lamination theory, initial failure prediction and progressive failure analysis of laminates, analysis of beam and plate structures, stiffness and strength based design of composites. Not open to students with credit in Mechanical Engineering 540. (Formerly numbered Engineering Mechanics 530.)

A E 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.

A E 550. Viscous Flow (3)
Prerequisites: Aerospace Engineering 340 and credit or concurrent registration in Aerospace Engineering 515.

A E 596. Advanced Aerospace Engineering Topics (3)
Prerequisite: Consent of instructor.
Modern developments in aerospace engineering. May be repeated with new content. See Class Schedule for specific content. Maximum credit of six units for any combination of Aerospace Engineering 496, 499, and 596 applicable to a bachelor’s degree. Credit for 596 and 696 applicable to a master’s degree with approval of the graduate adviser.

GRADUATE COURSES

A E 600. Seminar (1-3)
Prerequisites: 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. (Formerly numbered Engineering Mechanics 600.)

A E 601. Computational Fluid Mechanics (3)
Prerequisites: Credit or concurrent registration in Aerospace Engineering 302 and Aerospace Engineering 515.
Finite difference method of solving general fluid mechanics problems. Study of stability, convergence, compatibility, dissipation, and dispersion. A project is required.

A E 611. Vibration of Elastic Solids (3)
Prerequisites: Aerospace Engineering 410 or Mechanical Engineering 520, and Aerospace Engineering 515.
Vibrational characteristics of elastic media. Vibration of plates. Longitudinal and transverse wave motion in infinite, semi-infinite and finite thickness media. (Formerly numbered Engineering Mechanics 611.)

A E 612. Compressible Fluid Flow (3)
Prerequisites: Aerospace Engineering 302 and credit or concurrent registration in Aerospace Engineering 515.
Theory of flow at supersonic speeds. Linearized theory, three-dimensional wings in steady flight, slender-body theory, methods of characteristics.

A E 620. Incompressible Aerodynamics (3)
Prerequisites: Aerospace Engineering 301 and Aerospace Engineering 515.
Theory of incompressible aerodynamics; airfoil and wing theory; computational methods.

A E 621. Theory of Elasticity (3)
Prerequisites: Civil Engineering 301 (or Mechanical Engineering 304) and credit or concurrent registration in Aerospace Engineering 515.
Analysis of stress and strain; stress-strain relations; the equations of elasticity; uniqueness theorem; compatibility conditions; flexure and torsion. (Formerly numbered Engineering Mechanics 621.)

A E 631. Analysis of Elastic Plates (3)
Prerequisites: Aerospace Engineering 310 and 515.
Elasticity, energy principles, variational methods, classical theory, bending, and vibration of rectangular plates with various boundary conditions, shear deformation plate theories.
A E 641. Structural Optimization (3)
Prerequisites: Aerospace Engineering 310 and 510.
Analytical and numerical methods for structural optimization. Optimization problem formulation; optimization using calculus of variations; linear programming; nonlinear optimization; global optimization; generalized optimality criteria and dual methods; sensitivity analysis; multilevel and decomposition techniques; shape and topology optimization. (Formerly numbered Engineering Mechanics 641.)

A E 644. Turbulent Flow (3)
Prerequisites: Aerospace Engineering 515 and 550.
Nature of turbulence based on simple flow observations and a theoretical basis for interpreting and predicting the behaviors of specialized turbulent flow problems.

A E 651. Theory of Elastic Stability (3)
Prerequisites: Aerospace Engineering 310 and graduate standing in aerospace engineering.

A E 696. Advanced Topics in Aerospace Engineering (1-3)
Advanced topics in aerospace structural mechanics and design to include non-linear elasticity, plasticity, analysis of plates and shells, fracture mechanics, thermal stress analysis, fatigue analysis, non-linear aeroelasticity, advanced topics in finite element methods, structural optimization and reliability analysis. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

A E 731. Aeroelasticity (3)
Prerequisites: Aerospace Engineering 611 and 620.
Fluid-structure interaction and its static and dynamic effects on airplanes. Unsteady aerodynamics, static aeroelastic instability (divergence), aileron reversal, sweep effects, doublet lattice method, dynamic aeroelastic instability (flutter), computational dynamic aeroelasticity using NASTRAN. (Formerly numbered Engineering Mechanics 731.)

A E 797. Research (1-3) Cr/NC/RP
Prerequisite: Consent of graduate adviser.
Research in engineering. Maximum credit six units applicable to a master's degree.

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

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

A E 799B. Thesis or Project Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis or Project 799A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP 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.

A E 799C. Comprehensive Examination Extension (0) Cr/NC
Prerequisite: Completion or concurrent enrollment in degree program courses.
Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.
Civil, Construction, and Environmental Engineering
In the College of Engineering

OFFICE: Engineering 424
TELEPHONE: 619-594-6071
E-MAIL: ccee@sdsu.edu

Faculty
Janusz C. Supernak, Ph.D., Professor of Civil, Construction, and Environmental Engineering, The AGC Paul S. Roel Chair in Construction Engineering and Management, Interim Chair of Department
M. Ziad Bayasi, Ph.D., P.E., Professor of Civil, Construction, and Environmental Engineering
Fatih Buyuksonmez, Ph.D., P.E., Professor of Civil, Construction, and Environmental Engineering, The Blasker Chair in Environmental Engineering
Temesgen Garoma Ararsso, Ph.D., P.E., Professor of Civil, Construction, and Environmental Engineering
Victor M. Ponce, Ph.D., Professor of Civil, Construction, and Environmental Engineering
Julio R. Valdes, Ph.D., Professor of Civil, Construction, and Environmental Engineering
Kenneth D. Walsh, Ph.D., P.E., Professor of Civil, Construction, and Environmental Engineering
Thais da Costa Alves, Ph.D., Associate Professor of Civil, Construction, and Environmental Engineering (Graduate Adviser)
Robert K. Dowell, Ph.D., P.E., Associate Professor of Civil, Construction, and Environmental Engineering
Panagiotis Mitropoulos, Ph.D., P.E., Associate Professor of Civil, Construction, and Environmental Engineering
Sahar Ghanipoor-Machiani, Ph.D., Assistant Professor of Civil, Construction, and Environmental Engineering
Alicia M. Kinoshita, Ph.D., Assistant Professor of Civil, Construction, and Environmental Engineering
Natalie Mladenov, Ph.D., Assistant Professor of Civil, Construction, and Environmental Engineering
Xianfeng Yang, Ph.D., Assistant Professor of Civil, Construction, and Environmental Engineering

The Associated General Contractors (AGC) Paul S. Roel Chair in Construction Engineering and Management
The AGC Paul S. Roel Chair in Construction Engineering and Management is funded with an endowment established by generous gifts from members of the Associated General Contractors in San Diego Chapter. Recognizing the need for expert construction professionals, the local construction community has invested considerable resources in this new degree program. In particular, the endowment is funded by a significant gift from Roel Construction, in honor of Paul S. Roel, the son of the company's founder and the man responsible for moving the family business to San Diego in 1959. Interim Chair, Dr. Janusz C. Supernak, has extensive construction site experience.

The Blasker Chair in Environmental Engineering
The Blasker Chair in Environmental Engineering was established by an endowment from the Blasker-Rose-Miah Endowment Fund of the San Diego Foundation. The fund was created in honor of Mr. Samuel Blasker who left $8.0 million to the San Diego Foundation. Mr. Blasker was a successful aeronautical engineer and a business man with a vision to nurture and develop unique and innovative discoveries and experiences which may be of benefit to humanity.

The current appointee to the Chair, Dr. Fatih Buyuksonmez, is an accomplished scholar in the area of solid and hazardous waste management.

The William E. Leonhard, Jr. Chair in Civil, Construction, and Environmental Engineering
The William E. Leonhard, Jr. Chair in Civil, Construction, and Environmental Engineering is funded with an endowment created by generous gifts from William G. Leonhard, Jr. and his parents, William E. and Wyllis M. Leonhard. After Bill Leonhard graduated from San Diego State in 1964, he entered a career in the Air Force, rising to the rank of colonel. In January 1990, he retired from the Air Force, spent the next several years in private industry, and retired again in 1998. The current chair, Dr. Natalie Mladenov, promotes excellence in undergraduate education, research in environmental engineering, and conducts scholarly activities on the topic of water quality in environmental engineering.

Courses Acceptable for Master's Degree Programs in Civil, Construction and Environmental Engineering (CIV E) (CON E) (ENV E)

CIV E 521. Structural Analysis II (3)
Prerequisite: Civil Engineering 321.

CIV E 523. Design of Light Framed Structures (3)
Prerequisite: Civil Engineering 321.
Civil, Construction, and Environmental Engineering

CIV E 525. Design of Steel Structures (3)
Prerequisite: Civil Engineering 321.
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.

CIV E 528. Masonry Structures Design (3)
Prerequisite: Civil Engineering 321.
Analysis and design of masonry beams, retaining walls, shear walls, bearing walls, and columns. Use of allowable stress and strength design methods. Design project, including structural system analysis and lateral design of masonry buildings.

CIV E 530. Open Channel Hydraulics (3)
Two lectures and three hours of laboratory.
Prerequisite: Civil Engineering 444.

CIV E 531. Pipe Flow and Water Distribution Systems (3)
Prerequisite: Civil Engineering 444.

CIV E 545. Field Methods in Hydrology (3)
Two lectures and two hours of laboratory.
Prerequisite: Construction Engineering 220 and 445 with a grade of C (2.0) or better. Proof of completion of prerequisites required: Copy of transcript
Equipment, field methods, and techniques used to study hydrologic systems and water resources, to include local streams and watersheds in California. Tools provided to design and implement field studies and interpret data.

CIV E 580. Traffic Engineering Design (3)
Prerequisite: Civil Engineering 481.
Sizing and configuration of highway facilities based on capacity analysis. Traffic signal design, impact and mitigation studies, parking, safety design.

CIV E 596. Advanced Civil Engineering Topics (1-3)
Prerequisite: Consent of instructor.
Modern developments in civil engineering. May be repeated with new content. May be repeated with new content. See Class Schedule for specific content. Maximum credit for each unit for any combination of Civil Engineering 496, 499 and 596 applicable to a bachelor's degree. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

Construction Engineering (CON E)
UPPER DIVISION COURSES

CON E 520. Environmentally Conscious Construction (3)
Two lectures and three hours of laboratory.
Prerequisite: Construction Engineering 312 for construction engineering majors; Civil Engineering 444 for civil engineering majors; concurrent registration in Civil Engineering 495 for environmental engineering majors.
Design and design processes to target a sustainable structure. Construction practices associated with protection of environment. Application of industry standards for environmental and energy performance of buildings. Impacts on selection of methods, materials, and equipment for construction. Design of procurement and management systems to support environmentally conscious building. Commissioning and startup. (Formerly numbered Construction Engineering 420.)

CON E 590. Construction Management and Safety (3)
Prerequisites: Construction Engineering 330 and 401.
Management and control of critical project processes for construction projects. Definition, planning, and execution of projects based on plan, estimate, and bid documentation. Fundamentals of construction safety planning, design, and requirements. (Formerly numbered Construction Engineering 480.)

Environmental Engineering (ENV E)
UPPER DIVISION COURSES

ENV E 554. Process Fundamentals of Environmental Systems (3)
Prerequisites: Minimum grade of C in Environmental Engineering 355, Aerospace Engineering 340, Civil Engineering 444, and Mechanical Engineering 350.
Equilibrium and kinetics of chemical and biological reactions of environmental systems. Considerations of mass-transfer and fluid dynamics in water quality management and air pollution control.

ENV E 555. Sustainable Water and Sanitation Systems (3)
Two lectures and two hours of technical activity and laboratory.
Prerequisite: Environmental Engineering 355.
Design and selection of technologies for water delivery, reuse, sanitation, and treatment in developed and developing communities.

ENV E 556. Air Pollution Engineering (3)
Prerequisites: Senior standing and Environmental Engineering 355.

ENV E 558. Solid and Hazardous Waste Engineering (3)
Prerequisites: Senior standing and Environmental Engineering 355.
Municipal solid and hazardous solid wastes from an environmental engineering perspective, including waste minimization and recycling. Engineered volume reduction through composting, incineration, mechanical compaction, and other methods. Ultimate disposal, landfill design and legislative regulations.

ENV E 596. Advanced Environmental Engineering Topics (1-3)
Prerequisite: Consent of instructor.
Modern developments in environmental engineering. May be repeated with new content. See Class Schedule for specific content. Maximum credit of six units for any combination of Environmental Engineering 496, 499 and 596 applicable to a bachelor's degree. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

Civil Engineering (CIV E)
GRADUATE COURSES

CIV E 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.

CIV E 607. Dynamics of Structures (3)
Prerequisite: Civil Engineering 521 with minimum grade of C.
Dynamic disturbances, structures with variable degelastic beams; continuous beams, rigid frames, floor systems. Energy methods in structural dynamics.

CIV E 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.

CIV E 610. Finite Element Analysis of Structures (3)
Prerequisite: Civil Engineering 321 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.

CIV E 612. Advanced Concrete Materials (3)
Two lectures and three hours of laboratory.
Prerequisite: Civil Engineering 421.
CIV E 620. Traffic Flow and Control (3)  
Prerequisite: Civil Engineering 481 or City Planning 625, with minimum grade of C.  
Advanced treatment of traffic flow and control issues. Highway capacity and traffic flow characteristics, traffic flow modeling, intersection control, freeway control systems, intelligent transportation systems.

CIV E 621. Transportation Demand Analysis (3)  
Prerequisite: Civil Engineering 481 or City Planning 625, with minimum grade of C.  
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.

CIV E 622. Mass Transit Engineering (3)  
Prerequisite: Civil Engineering 481 or City Planning 625, with minimum grade of C.  
Transit system characteristics, analysis of demand for transit services, transit system planning, scheduling, analysis and design.

CIV E 631. Spatial Hydrology (3)  
Prerequisite: Civil Engineering 445 with a minimum grade of C or graduate standing.  
Integration of spatial data analysis and hydrologic modeling. Quantification of spatially distributed hydrologic characteristics. Decomposition of drainage network systems to support quasi-distributed hydrologic modeling. Quantification of hydrologic impacts due to model resolution, altered land use conditions, and modeling techniques.

CIV E 632. Computational Hydraulics and Hydrology (3)  
Prerequisites: Civil Engineering 445 and 530. 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.

CIV E 633. Environmental Hydrology (3)  
Prerequisites: Civil Engineering 445 and Environmental Engineering 355.  
Hydrosphere function, hydroclimatology, hydrographic characteristics, desertification, hydroecology, salinity modeling and management, stream and lake restoration, and case studies.

CIV E 634. Surface Water Hydrology (3)  
Prerequisite: Civil Engineering 445.  

CIV E 638. Sedimentation Engineering (3)  
Prerequisite: Civil Engineering 444 with minimum grade of C.  
Hydraulics of sediment transport; erosion and sedimentation problems; river mechanics and morphology; mathematical modeling of river hydraulics; sediment transport and river channel changes. Design and environmental problems; erosion control and river training.

CIV E 640. Advanced Soil Mechanics (3)  
Prerequisites: Civil Engineering 462 and 463 with minimum grades of C.  
Advanced theories of soil mechanics applied to geotechnical and environmental engineering. Classification of terrestrial and marine soils; compaction, consolidation, expansion, stress distribution, strength, permeability and seepage, site improvement, and remediation.

CIV E 641. Advanced Foundation Engineering (3)  
Prerequisites: Civil Engineering 462 and 463 with minimum grades of C.  
Advanced theories of soil bearing capacity, settlement, and stress distribution applied to design of shallow and deep foundations and earth retaining structures. Subsurface exploration and dewatering methods.

CIV E 642. Groundwater Seepage and Earth Dams (3)  
Prerequisites: Civil Engineering 462 and 463 with minimum grades of C.  

CIV E 644. Soil Dynamics (3)  
Prerequisites: Civil Engineering 462 and 463 with a minimum grade of C.  
Behavior of soil and soil-structure systems under dynamic loading. Applications include dynamic earth bearing capacity and pressure, soil spring constants for machine foundation design, liquefaction analysis, site response spectra, and seismic stability of slopes. Case histories discussed.

CIV E 696. Advanced Topics in Civil Engineering (2-3)  
Intensive study in specific areas of civil engineering. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

CIV E 730. Advanced Topics in Water Engineering (3)  
Prerequisites: Civil Engineering 530 and consent of instructor. Advanced treatment of several fields in water engineering to include time series analysis, hydromodification, and online hydrologic modeling.

CIV E 781. Seminar in Transportation Engineering (2-3)  
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.

CIV E 797. Independent Research (1-3) Cr/NC/RP  
Prerequisite: Consent of graduate adviser.  
Independent research in civil and environmental engineering. Maximum credit three units applicable to a master's degree.

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

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

CIV E 799B. Thesis or Project Extension (0) Cr/NC  
Prerequisites: An officially appointed thesis committee and advancement to candidacy.  
Registration required in any semester or term following assignment of RP 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.

CIV E 799C. Comprehensive Examination Extension (0) Cr/NC  
Prerequisite: Completion or concurrent enrollment in degree program courses.  
Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.
### Construction Engineering (CON E) GRADUATE COURSES

**CON E 650. Construction Labor Productivity (3)**  
Prerequisites: Construction Engineering 301 and 401.  
Definition of productivity measures and factors that affect productivity of construction labor. Quantification techniques of labor productivity in construction.

**CON E 651. Project Production System Design in Construction (3)**  
Prerequisites: Construction Engineering 650 or Construction Engineering 310, 401, and 490.  
Theory of project production system design. Relation to production management theories, productivity improvement techniques, data gathering techniques to support process evaluation. Civil design and construction operations but also applicable to other industries.

**CON E 652. Construction Operations Modeling and Technology (3)**  
Prerequisites: Construction Engineering 310, 401, 651, and Civil Engineering 220.  

**CON E 653. Construction Scheduling (3)**  
Prerequisites: Construction Engineering 301 and 401.  
Construction planning, scheduling and evaluation of planning techniques, labor, and equipment leveling, expecting cost and crashing, resource loading, what if scenarios, and use of scheduling in delay analysis.

**CON E 654. Construction Claims (3)**  
Prerequisite: Construction Engineering 301.  
Basic foundations construction claims process starting with an understanding of contractual basis for construction claims through final resolution of claims. Clauses that form the basis for claims; recognition of claims, communicating claims elements, pricing claims, and methods for resolving claims.

**CON E 655. Project Design and Portfolio Management (3)**  
Prerequisites: Construction Engineering 651 or Civil Engineering 495; and Environmental Engineering 320 or 355.  
Principles for project selection, definition, design management and value generation, including consideration of ROI, feasibility, and portfolio diversification. Incorporation of life-cycle considerations into all levels of design, including concepts of sustainability. Owner, designer, and contractor perspectives.

### Environmental Engineering (ENV E) GRADUATE COURSES

**ENV E 637. Process Design for Industrial and Hazardous Waste Treatment (3)**  
Prerequisites: Environmental Engineering 647 and 648.  
Process design of physical, chemical, and biological methods for treatment of hazardous and industrial waste.

**ENV E 645. Aquatic Chemistry for Environmental Engineers (3)**  
Prerequisite: Classified graduate standing.  

**ENV E 646. Microbiological Principles of Environmental Engineering (3)**  
Prerequisite: Graduate standing.  
Relationships and significance of microorganisms to organic matter decomposition, mineral transformations, and environmental quality. Applied study in natural (water, sediments, wetlands) and disturbed ecosystems (landfills, contaminated sediments, and groundwater).

**ENV E 647. Physical and Chemical Processes of Water Pollution Control (3)**  
Prerequisites: Environmental Engineering 554 and 645.  
Engineering principles and design of physical and chemical processes used in water and wastewater treatment.

**ENV E 648. Biological Processes and Bioremediation Engineering (3)**  
Prerequisite: Environmental Engineering 554.  
Engineering principles and design of biological processes used in wastewater and bioremediation treatment technologies.

**ENV E 696. Advanced Topics in Environmental Engineering (2-3)**  
Intensive study in specific areas of environmental engineering.  
May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

**ENV E 797. Independent Research (1-3) Cr/NC/RP**  
Prerequisite: Consent of staff; to be arranged with department chair and instructor.  
Individual study. Maximum credit three units applicable to a master's degree.

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

**ENV E 799A. Thesis or Project (3) Cr/NC/RP**  
Prerequisites: An officially appointed thesis committee and advancement to candidacy.  
Preparation of a master's thesis or project with an assigned grade symbol of RP.  
Registration during any semester or term following assignment of RP 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.

**ENV E 799B. Thesis or Project Extension (0) Cr/NC**  
Prerequisite: Prior registration in Thesis or Project 799A with an assigned grade symbol of RP.  
Registration required in any semester or term following assignment of RP 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.

**ENV E 799C. Comprehensive Examination Extension (0) Cr/NC**  
Prerequisite: Completion or concurrent enrollment in degree program courses.  
Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.
Faculty

Madhu S. Gupta, Ph.D., Professor of Electrical and Computer Engineering, The Radio Frequency Communication Systems Industry Chair
Sunil Kumar, Ph.D., Professor of Electrical and Computer Engineering
Yusuf Ozturk, Ph.D., Professor of Electrical and Computer Engineering
Satish Kumar Sharma, Ph.D., Professor of Electrical and Computer Engineering
Andrew Y.J. Szeto, Ph.D., P.E., Professor of Electrical and Computer Engineering
R. Lal Tummala, Ph.D., Professor of Electrical and Computer Engineering
Amirhossein Alimohammad, Ph.D., Associate Professor of Electrical and Computer Engineering
Ashkan Ashrafi, Ph.D., Associate Professor of Electrical and Computer Engineering (Graduate Adviser)
Arif Ege Engin, Ph.D., Associate Professor of Electrical and Computer Engineering
Santosh V. Nagaraj, Ph.D., Associate Professor of Electrical and Computer Engineering
Mahasweta Sarkar, Ph.D., Associate Professor of Electrical and Computer Engineering
Sridhar Seshagiri, Ph.D., Associate Professor of Electrical and Computer Engineering
Bars Aksanli, Ph.D., Assistant Professor of Electrical and Computer Engineering
Ke Huang, Ph.D., Assistant Professor of Electrical and Computer Engineering
Huu Ngoc Duy Nguyen, Ph.D., Assistant Professor of Electrical and Computer Engineering
Reza Sabzehgar, Ph.D., Assistant Professor of Electrical and Computer Engineering
Ying-Khai Teh, Ph.D., Assistant Professor of Electrical and Computer Engineering

The Radio Frequency Communication Systems Industry Chair

The Radio Frequency (RF) Communication Systems Industry Chair was established in recognition of the pervasiveness and vital role of radio frequency and wireless communications in modern society, and the emergence of San Diego as the world's leading center of research and development in the field of telecommunications and wireless engineering. The chair is sustained through generous contributions of Cubic Corporation and other corporations engaged in wireless communication technology, in appreciation of contributions of students trained in the field at SDSU. The RF Communication Systems Industry Chair is intended to promote excellence in education of RF and microwave engineers, and encourage significant professional activities in the field. Dr. Madhu S. Gupta, the first occupant of the chair, maintains a major involvement in professional work in the discipline and has received international recognition from his professional peers as a distinguished educator and scholar in the field of RF and microwave engineering.

Courses Acceptable for Master's Degree Program in Electrical and Computer Engineering (E E) (COMPE)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

Electrical Engineering (E E)

UPPER DIVISION COURSES

NOTE: Prerequisites will be enforced in all 500-level courses. A copy of an official transcript will be accepted as proof. For courses with special conditions or exceptions, an enrollment confirmation form will be accepted.

All courses at the 300 level or below must be passed with a grade of C– or better in order to be used as a prerequisite for any subsequent course with the exception of Electrical Engineering 210, Computer Engineering 160, Mathematics 150, 151, Physics 195, 196, which requires a grade of C or better.

E E 502. Electronic Devices for Rehabilitation (3)

Two lectures and three hours of laboratory. Prerequisite: Electrical Engineering 330 with a grade of C (1.7) or better.

Recent developments in electronic assistive devices and microcomputers for persons with various disabilities; assessment of disabled persons for suitable technological assistive devices.

E E 503. Biomedical Instrumentation (3)

Prerequisites: Aerospace Engineering 280 with a grade of C (1.7) or better; Electrical Engineering 410 and 430 (or for Mechanical Engineering majors, Electrical Engineering 204 and Mechanical Engineering 330).

Instrumentation systems to monitor, image, control, and record physiological functions.

E E 522. Digital Control Systems (3)

Prerequisite: Electrical Engineering 420. Digital controls systems; design algorithms including analog/variance methods, direct digital techniques, and non-parametric approaches such as fuzzy control, neural networks, and evolutionary systems; implementation considerations.

E E 530. Analog Integrated Circuit Design (3)

Prerequisite: Electrical Engineering 430 with minimum grade of C-. 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.

E E 534. Solid-State Devices (3)

Prerequisite: Electrical Engineering 434. Energy bands and charge carriers in semiconductors; generation, recombination, and transport of excess carriers; semiconductor junctions; unipolar and bipolar transistors; high-frequency, high-power, and optoelectronic devices; integrated circuits.

E E 540. Microwave Devices and Systems (3)

Prerequisite: Electrical Engineering 440. Recommended: Aerospace Engineering 515.

Applications of Maxwell's equations to wave propagation. Microwave network parameters; guided wave transmission and reflection. Design of filters, couplers, power dividers and amplifiers. Applications in radar and telecommunications systems.
Electrical Engineering (E E)

E E 540L. Microwave Design and Measurements Laboratory (1)
Three hours of laboratory.
Prerequisites: Credit or concurrent registration in Electrical Engineering 430L and 540.
Microwave measurement equipment, simulation tools for designing microwave components, vector network analyzer calibration, design and measurement of planar microwave components, and a design project.

E E 555. Sustainable Water and Sanitation Systems (3)
Two lectures and two hours of technical activity and laboratory.
Prerequisite: Electrical Engineering 355.
Design and selection of technologies for water delivery, reuse, sanitation, and treatment in developed and developing communities.

E E 556. Digital Signal Processing (3)
Prerequisite: Electrical Engineering 410.
Discrete-time signals and systems, Sampling, Z-transform, Discrete-time Fourier transform and frequency responses, DFT, FFT, and introduction to IIR and FIR digital filter design.

E E 558. Digital Communications (3)
Prerequisite: Electrical Engineering 458.
Design of baseband digital communication systems; noise characterization, sampling, quantization, matched filter receivers, bit-error performance, inter-symbol interference, link budget analysis.

E E 581. Power System Dynamics (3)
Prerequisite: Electrical Engineering 480.
Three-phase faults, symmetrical components, unsymmetrical faults, protective relay operating principles, economic dispatch of thermal power generation units, power system controls, voltage and power stability.

E E 584. Power Electronics (3)
Prerequisites: Electrical Engineering 380 and 430 with a grade of C- (1.7) or better in each course.
Design and analysis of power electronic devices. Permanent-magnet and pulse-width modulation ac-to-ac converters, dc-to-ac inverters, power electronics applications, power semiconductor switches, and switch-mode power supplies. (Formerly numbered Electrical Engineering 484.)

E E 584L. Power Electronics Laboratory (3)
Prerequisite: Credit or concurrent registration in Electrical Engineering 584.
Experimental design of dc-dc converters (boost, buck, buck-boost), flyback and forward converters, voltage and current mode control design and implementation. Basic photovoltaics and maximum-power-point-tracking (MPPT) design and battery charge control using switched-mode dc-dc converters.

E E 596. Advanced Electrical Engineering Topics (1-3)
Prerequisite: Consent of instructor.
Modern developments in electrical engineering. May be repeated with new content. See Class Schedule for specific content. Maximum credit of nine units for any combination of Electrical Engineering 496 and 596 applicable to a bachelor's degree. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

COMPE 561. Windows Database and Web Programming (3)
Prerequisite: Computer Engineering 361 with a grade of C- (1.7) or better.
Programming applications involving file systems, relational databases, Structured Query Language (SQL), ADO.NET, client-server architecture, multithreading sockets, web servers, web browsers, web services, ASP.NET, Hypertext Markup Language (HTML), and Extensible Markup Language (XML).

COMPE 565. Multimedia Communication Systems (3)
Prerequisite: Credit or concurrent registration in Computer Engineering 560.

COMPE 571. Embedded Operating Systems (3)
Prerequisites: Computer Engineering 260 with a grade of C- (1.7) or better. Computer Engineering 475.
Real-time kernel, basic kernel services, threading and synchronization, preemptive multithreading, mutexes, spin locks, critical sections, priority scheduling, interrupts, RTOS implementation, memory management, task management, intertask communications.

COMPE 572. VLSI Circuit Design (3)
Prerequisites: Computer Engineering 271 with a grade of C- (1.7) or better. Electrical Engineering 330.
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.

COMPE 596. Advanced Computer Engineering Topics (1-3)
Prerequisite: Consent of instructor.
Modern developments in computer engineering. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

Electrical Engineering (E E)

GRADUATE COURSES

NOTE: All listed prerequisite courses or their equivalent for computer engineering and electrical engineering courses must be satisfied with a grade of C- or better.

E E 600. Seminar (1-3)
Prerequisite: Consent of instructor.
An intensive study in advance electrical engineering. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

E E 601. Linear System Theory and Design (3)
Prerequisite: Electrical Engineering 420.
State models and solutions of the state equations, stability, controllability and observability, realizability and minimal realizations, linear state and output feedback control, introduction to linear optimal control.

E E 602. Stochastic Signals and Systems (3)
Prerequisite: Electrical Engineering 410.
Random signals, correlation functions, power spectral densities, the Gaussian process, narrow band processes. Applications to communication systems.

E E 631. RF Electronic Circuits (3)
Prerequisites: Electrical Engineering 410, 430, 602.
Distinguishing characteristics of RF circuits; analysis of noise and nonlinearity in circuits; frequency-selective and impedance-matching networks. RF amplifiers, oscillators and frequency conversion circuits. Phase-locked loops and their applications.
E E 634. RF Circuit Design (3)
Prerequisite: Electrical Engineering 540.
RF component and circuit design in frequency domain and scattering parameter terms. Linear amplifiers, stability considerations, unilateralization, matching techniques, low-noise amplifiers, wideband designs, power amplifiers, linearity considerations, oscillators, and mixers.

E E 641. RF Wireless Systems (3)
Prerequisites: Electrical Engineering 440, 558, 602.
Characteristics and performance measures of RF subsystem in wireless communication systems: wireless channel, antenna, modulators and demodulators, low-noise and power amplifiers, oscillators, ADC and DAC, receiver architectures, system-level design of RF front-end.

E E 645. Antennas and Propagation (3)
Prerequisite: Electrical Engineering 440.
Antenna radiation mechanism, antenna types, fundamental antenna parameters, microstrip patch antennas, theory and design of various array and wire antennas, antenna measurement techniques and radio wave propagation in different propagation environments to include mobile communications, multiple input multiple output (MIMO) communications, and satellite communications.

E E 650. Modern Communication Theory (3)
Prerequisites: Electrical Engineering 558 and 602.
Wireless digital communication; bandpass modulation and demodulation, multiple access techniques, broadband signaling techniques, spread spectrum techniques; applications include CDMA and OFDM.

E E 652. Principles and Applications of Information Theory (3)
Prerequisites: Electrical Engineering 558 and 602.
Information measure of data sources; Shannon's theorem and capacity of communication links; rate-distortion theory and performance of source codes.

E E 653. Coding Theory (3)
Prerequisite: Electrical Engineering 558.
Error control for digital information; arithmetic of Galois fields; block, cyclic, convolutional and turbo encoding and decoding; applications in digital communication and computer systems.

E E 654. Adaptive Algorithms (3)
Prerequisite: Electrical Engineering 556.
Adaptive DSP algorithms. Time varying, data dependent filters, adaptive predictors, cancelers, equalizers. LMS and RLS algorithms, tapped delay line, lattice, and decision feedback structures. Adaptive beam forming and beam steering.

E E 655. Modem Design (3)
Prerequisites: Electrical Engineering 556 and 558.
System level and DSP design of moderns for wireless and wireline communications. Study modems for QAM, OFDM, CDMA, and T-1 modulation.

E E 656. Multirate Signal Processing (3)
Prerequisite: Electrical Engineering 556.
DSP techniques for sample rate changes in digital filters. Decimation and interpolation, aliasing as a processing option in resampling filters. Applications in communication and entertainment media systems.

E E 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.

E E 658. Advanced Digital Signal Processing (3)
Prerequisites: Electrical Engineering 556 and 602.

E E 660. High Speed Networks: Design Principles and Recent Advances (3)
Prerequisite: Computer Engineering 560.
Provides students with knowledge of recent developments in area of computer networks. Current research in high speed computer networks.

E E 662. Wireless Sensor Networks (3)
Prerequisite: Computer Engineering 560.
Sensor platforms, wireless channel characteristics, time synchronization, medium access control, topology control, routing protocols, localization, coverage and placement, detection and tracking, query processing.

E E 665. Multimedia Wireless Networks (3)
Prerequisite: Computer Engineering 565.
Multimedia source characteristics, compressed bitstreams, error resilience, quality of service, cellular video telephony, multimedia QoS-aware WLAN, peer to peer networks, and multimedia broadcast multicasts services.

E E 670. Digital ASIC Design (3)
Prerequisite: Computer Engineering 572.
High-performance and low-power digital application-specific integrated circuit (ASIC) chips.

E E 672. VLSI System Design (3)
Prerequisite: Computer Engineering 470.
VLSI systems at the architectural level for digital signal processing applications; feedforward and feedback systems, fixed-point and floating-point representations, folding, iteration bound, parallel architectures, pipelining, retiming, unfolding, wave and asynchronous pipelining.

E E 674. Signal and Power Integrity (3)
Prerequisites: Electrical Engineering 440 and Computer Engineering 572.
Interconnect and power distribution network design in very-large-scale integration systems packaging. High-speed transmission lines and crosstalk, macromodeling of interconnects. Switching noise, decoupling, numerical methodologies in power integrity design.

(Same course as Mechanical Engineering 685)
Prerequisite: Mechanical Engineering 585.
Design and manufacturing technology for micro- and nano-scale devices. Topics include solid state transducers, microscale physics, biomedical microelectronics, microfluidics, biosensors, and hybrid integration of microfabrication technology. Emphasis on biomedical applications.

E E 740. Advanced Topics in Physical Electronics (1-3)
Prerequisites: Graduate level coursework in the area and consent of instructor.
Selected topics in electromagnetic fields and waves, optoelectronics, and semiconductor devices. May be repeated with new content and consent of graduate adviser. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

E E 795. Internship/Practicum (1) Cr/NC
Prerequisites: Eighteen units of graduate level coursework in electrical engineering and consent of adviser. Supervised internship or practicum experience with approval of graduate adviser. Not applicable to an advanced degree. Maximum credit three units.

E E 797. Research (1-6) Cr/NC/RP
Prerequisites: Consent of department chair. Open only to students in Plan A Thesis. Research in engineering. Maximum credit six units applicable to a master's degree for students in Plan A only.

E E 798. Special Study (1-3) Cr/NC/RP
Prerequisite: Consent of department chair. Individual study. Maximum credit three units applicable to a master's degree for students in Plan B study.

E E 799A. Thesis or Project (3) Cr/NC/RP
Prerequisites: Eighteen units of Plan A research. Registration required in any semester or term following assignment of RD. Preparation of a project or thesis for the master's degree.

E E 799B. Thesis or Project Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis or Project 799A with an assigned grade symbol of RP.
Mechanical Engineering
In the College of Engineering

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Chair of Department: John Abraham, Ph.D.
(Mechanical Engineering Graduate Adviser)

Faculty
Asfaw Beyene, Ph.D., Professor of Mechanical Engineering
Subrata Bhattacharjee, Ph.D., Professor of Mechanical Engineering
Samuel K. Kassegne, Ph.D., Professor of Mechanical Engineering
(Knoebel Engineering Graduate Adviser)
Ronald A. Kline, Ph.D., Professor of Mechanical Engineering
Karen D. May-Newman, Ph.D., Professor of Mechanical Engineering
Morteza M. Mehrabadi, Ph.D., Professor of Mechanical Engineering
and Dean of the College of Engineering
Kee S. Moon, Ph.D., Professor of Mechanical Engineering,
Khaled B. Morsi, Ph.D., Professor of Mechanical Engineering
Eugene A. Olevsky, Ph.D., Albert W. Johnson Distinguished Professor of Mechanical Engineering and Associate Dean for Graduate Studies and Research in the College of Engineering
Fletcher J. Miller, Ph.D., Associate Professor of Mechanical Engineering
Joaquin Camacho, Ph.D., Assistant Professor of Mechanical Engineering
Kaveh Akbari Hamed, Ph.D., Assistant Professor of Mechanical Engineering
Parag Katira, Ph.D., Assistant Professor of Mechanical Engineering
Morteza M. Mehrabadi, Ph.D., Assistant Professor of Mechanical Engineering
George Youssef, Ph.D., Assistant Professor of Mechanical Engineering

Courses Acceptable for Master's Degree Program in Mechanical Engineering (M E)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

NOTE: Proof of Completion of prerequisites required for all Mechanical Engineering 300-, 400-, and 500-level courses: Copy of transcript.

M E 520. Introduction to Mechanical Vibrations (3)
Prerequisites: Mechanical Engineering 304 (or Civil Engineering 301) and Mechanical Engineering 330.
Analysis of mechanical vibration; single- and multi-degree of freedom systems; free and forced vibrations; vibration isolation; vibration absorbers. Theory of vibration measuring instruments.

M E 530. Automatic Control Systems (3)
Prerequisite: Mechanical Engineering 330.
Dynamic characteristics of control components and systems. Stability and response of closed loop systems. Design of control systems.

M E 535. Mechanics of Composite Structures (3)
(Same course as Aerospace Engineering 535)
Prerequisites: Aerospace Engineering 280 and Aerospace Engineering 310 or Mechanical Engineering 314.
Micro- and macro-mechanics of composite materials, classical laminating theory, initial failure prediction and progressive failure analysis of laminates, analysis of beam and plate structures, stiffness and strength based design of composites. Not open to students with credit in Mechanical Engineering 540.

M E 540. Nonmetallic Materials (3)
Prerequisites: Mechanical Engineering 314.

M E 543. Powder-Based Manufacturing (3)
Prerequisite: Mechanical Engineering 240.
Fundamentals of micro and nano-structured engineering components and composites starting with metal and/or ceramic powders. Powder production methods, characterization, powder shaping and compaction, sintering, hot consolidation, design considerations, and finishing operations.

M E 552. Heating, Ventilating, and Air-Conditioning (3)
Prerequisites: Mechanical Engineering 351 and 452.

M E 555. Energy and Thermal Systems Analysis and Design (3)
Prerequisites: Mechanical Engineering 351 and 452.
Analysis, design, and optimization of thermal systems using microcomputers. Modeling 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.

M E 556. Solar Energy Conversion (3)
Prerequisites: Mechanical Engineering 351, 452, and Aerospace Engineering 340.
Application of thermodynamics, fluid mechanics and heat transfer to the thermal design of solar energy conversion systems. Computer simulations utilized.

M E 580. Biomechanics (3)
Prerequisites: Mechanical Engineering 304 (or Civil Engineering 301) and Aerospace Engineering 340.
**Mechanical Engineering**

**GRADUATE COURSES**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>M E 585</td>
<td>Fundamentals of Micro-Electro-Mechanical Systems (MEMS) (3)</td>
<td>One lecture and four hours of laboratory. Prerequisites: For aerospace engineering majors: Mechanical Engineering 220 [or Aerospace Engineering 220], Electrical Engineering 204, and Mechanical Engineering 240. For electrical engineering majors: Electrical Engineering 330 and Mechanical Engineering 240. For mechanical engineering majors: Mechanical Engineering 240 and Mechanical Engineering 220 [or Aerospace Engineering 220]. Modern developments in mechanical engineering. May be repeated with new content. See Class Schedule for specific content. Maximum credit of nine units for any combination of Mechanical Engineering 496, 499 and 596 applicable to a bachelor's degree. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.</td>
<td>3</td>
</tr>
<tr>
<td>M E 596</td>
<td>Advanced Mechanical Engineering Topics (1-3)</td>
<td>Prerequisite: Consent of instructor.</td>
<td>1-3</td>
</tr>
<tr>
<td>M E 610</td>
<td>Finite Element Methods in Mechanical Engineering (3)</td>
<td>Prerequisites: Aerospace Engineering 280 with a grade of C or better. 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.</td>
<td>3</td>
</tr>
<tr>
<td>M E 640</td>
<td>Nanomaterials (3)</td>
<td>Prerequisite: Mechanical Engineering 543. Nanomaterials compared with conventional materials. Nanomaterials synthesis, characterization, properties, and applications.</td>
<td>3</td>
</tr>
<tr>
<td>M E 646</td>
<td>Mechanics of Sintering (3)</td>
<td>Prerequisite: Classified graduate standing. Practical aspects and conceptual models and mechanisms associated with sintering of ceramic and metal powders.</td>
<td>3</td>
</tr>
<tr>
<td>M E 651</td>
<td>Advanced Thermodynamics (3)</td>
<td>Prerequisites: Aerospace Engineering 280 with a grade of C or better and Mechanical Engineering 351. Advanced concepts of macroscopic thermodynamics are developed including entropy generation, irreversibility, effectiveness, exergy, and chemical exergy of fuels. Concepts applied to power and refrigeration cycles using computer software.</td>
<td>3</td>
</tr>
<tr>
<td>M E 653</td>
<td>Combustion (3)</td>
<td>Prerequisite: Mechanical Engineering 351. Thermodynamics of combustion, chemical equilibrium, chemical kinetics, combustion of gaseous, liquid and solid fuels, and their application.</td>
<td>3</td>
</tr>
<tr>
<td>M E 656</td>
<td>Conduction Heat and Transfer (3)</td>
<td>Prerequisites: Mechanical Engineering 452 and Aerospace Engineering 515. Conduction heat transfer analysis of multi-dimensional and transient processes using both classical analysis and numerical methods.</td>
<td>3</td>
</tr>
<tr>
<td>M E 657</td>
<td>Convection Heat Transfer (3)</td>
<td>Prerequisites: Mechanical Engineering 452 and Aerospace Engineering 515. Convection heat transfer processes under laminar and turbulent conditions. Mass transfer. Scaling arguments, analytical and numerical modeling.</td>
<td>3</td>
</tr>
<tr>
<td>M E 661</td>
<td>Gas Dynamics (3)</td>
<td>Prerequisites: Mechanical Engineering 351 and Aerospace Engineering 515. Thermodynamics of high velocity compressible fluid flow. Adiabatic and diabatic flow; shock phenomena; imperfect gases; multidimensional flow. Applications to the propulsive duct and turbomachinery.</td>
<td>3</td>
</tr>
<tr>
<td>M E 683</td>
<td>Design of Medical Devices (3)</td>
<td>Prerequisites: Mechanical Engineering 314 and 580. Device design, including biomaterials, human factors engineering, reliability, and manufacturing. Topics relevant to industry reviewed include regulatory, documentation, quality, and legal.</td>
<td>3</td>
</tr>
<tr>
<td>M E 685</td>
<td>Micro-Electro-Mechanical Systems (MEMS) Design and Applications (3)</td>
<td>(Same course as Electrical Engineering 685) Prerequisites: Mechanical Engineering 355. Design and manufacturing technology for micro- and nano-scale devices. Topics include solid state transducers, microscale physics, biomedical microelectronics, microfluidics, biosensors, and hybrid integration of microfabrication technology. Emphasis on biomedical applications.</td>
<td>3</td>
</tr>
<tr>
<td>M E 696</td>
<td>Advanced Topics in Mechanical Engineering (2 or 3)</td>
<td>Intensive study in specific areas of mechanical engineering. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.</td>
<td>2 or 3</td>
</tr>
<tr>
<td>M E 797</td>
<td>Research (1-3) Cr/NC/RP</td>
<td>Prerequisites: Consent of graduate adviser and advancement to candidacy. Research in engineering. Maximum credit six units applicable to a master's degree.</td>
<td>1-3</td>
</tr>
<tr>
<td>M E 798</td>
<td>Special Study (1-3) Cr/NC/RP</td>
<td>Prerequisite: Consent of graduate adviser; to be arranged with department chair and instructor. Individual study or internship. Maximum credit three units applicable to a master's degree.</td>
<td>1-3</td>
</tr>
<tr>
<td>M E 799</td>
<td>Thesis or Project (3) Cr/NC/RP</td>
<td>Prerequisites: An officially appointed thesis committee and advancement to candidacy. Preparation of a project or thesis for the master's degree.</td>
<td>3</td>
</tr>
<tr>
<td>M E 799A</td>
<td>Thesis or Project Extension (0) Cr/NC</td>
<td>Prerequisite: Prior registration in Thesis or Project 799A with an assigned grade symbol of RP. Registration required in any semester or term following assignment of RP 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.</td>
<td>0</td>
</tr>
<tr>
<td>M E 799C</td>
<td>Comprehensive Examination Extension (0) Cr/NC</td>
<td>Prerequisite: Completion or concurrent enrollment in degree program courses. Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.</td>
<td>0</td>
</tr>
</tbody>
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English

In the Department of English and Comparative Literature
In the College of Arts and Letters

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Faculty

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Laurie Champion, Ph.D., Professor of English
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Barry G. Stampfl, Ph.D., Associate Professor of English
Yetta Howard, Ph.D., Assistant Professor of English and Comparative Literature
Jessica Pressman, Ph.D., Assistant Professor of English and Comparative Literature

Associateships and Scholarships

Graduate teaching associateships and graduate assistantships are available to a limited number of qualified students. Teaching associates teaching English 100 and 200 must have completed Rhetoric and Writing Studies 609, attend Rhetoric and Writing Studies 796A during the first semester of their associateship, and have the consent of the RWS GTA program director. Applications and additional information are available from the graduate director and from the department office.

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 five areas of specialization: American literature, British literature, children’s 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, after obtaining a credential, in a secondary school. 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, Poetry International, and The Pacific Review.

Admission to Graduate Study

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.

All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the Department of English and Comparative Literature.

Graduate Admissions

The following materials should be submitted as a complete package directly to:

Graduate Admissions and
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;

NOTE:

• Students who attended SDSU need only submit transcripts for work completed since last attendance.

• Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

(2) GRE scores (http://www.ets.org SDSU institution code 4682);

(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

Master of Arts Degree in English

The following materials should be submitted by December 1 for the fall semester to:

Department of English and Comparative Literature
(Attention: Graduate Adviser)
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-8140

(1) Three letters of recommendation (in sealed and signed envelopes) from persons in a position to judge academic ability;

(2) A 750-1000 word statement of purpose;

(3) A 10-page writing sample from a previous literature course, preferably an analytical essay involving research.

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.
All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the Department of English and Comparative Literature.

**Master of Fine Arts Degree in Creative Writing**

The following materials should be submitted by February 1 for the fall semester to:

Department of English and Comparative Literature [Attention: Graduate Adviser]
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-8140

(1) A sample of creative work (15 poems or 30 pages of prose) to enable the creative writing faculty to assess the candidate’s suitability to pursue an M.F.A. in creative writing;

(2) A 750-1000 word statement of purpose;

(3) Three letters of recommendation.

**Master of Arts Degree in English**

**Admission to the Degree Curriculum**

Students will be admitted in both the fall and spring semesters. Submit applications by October 1 for the spring and by February 1 for the fall.

All students must satisfy the general requirements for admission to the university with classified graduate standing, as described in Part Four of this bulletin. Students may be admitted to the master’s program in English in one of two categories:

1. **Classified Graduate Standing**
   - To be considered for admission, students must meet the following minimal requirements:
     a. 24 units of upper division work in English. (Students choosing the comparative literature specialization may substitute foreign language literature or comparative literature courses.)
     b. 2.85 overall on a 4.0 Grade Point Scale.
     c. 3.0 grade point average in the English major. (Students choosing the comparative literature specialization must possess a 3.0 grade point average in either foreign language literature or comparative literature courses.)
   - The applicant normally must achieve a minimum score of 156 on the verbal section of the new Graduate Record Examination, and a minimum of 5.0 on the GRE analytical essay examination.

2. **Conditional Classified Graduate Standing**
   - Conditional acceptance may be granted if there is a deficiency in any of the above requirements. A student accepted conditionally must customarily 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 2.85 overall and achieve a minimum score of 156 on the verbal section of the new Graduate Record Examination and a minimum of 5.0 on the GRE analytical essay examination. 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.

**Advancement to Candidacy and Language Requirement**

All students must satisfy the general requirements for advancement to candidacy, including the foreign language requirement, as stated in Part Four of this bulletin. Each candidate, with the approval of the graduate director, may fulfill the foreign language requirement in one of several ways: (1) by passing a local examination administered by one of the university’s foreign language departments, (2) 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 (3) by passing an examination to be determined by the graduate adviser if the chosen language is one not taught in a department at San Diego State University.

**Specific Requirements for the Master of Arts Degree**

(Major Code: 15011) (SIMS Code: 112101)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master’s degree as described in Part Four of this bulletin, the student must complete a 30-unit program of study, approved by the department’s director of graduate studies, with at least 27 units of 600- and 700-numbered courses. The major includes a specialization in one of five program areas: American literature, British literature, children’s literature, comparative literature, or rhetoric and writing. Students specializing in literature may choose Plan A (thesis) or Plan B (portfolio assessment).

**Specialization in American Literature**

(Major Code: 15011) (SIMS Code: 112103)

Core Course (3 units):

**ENGL 600** Introduction to Graduate Study (3)

**American Literature Research Focus.** With prior approval by the graduate adviser, a student will select nine units from the following:

**ENGL 604A** Seminar: Literary Period or Movement: American Literature (3)

**ENGL 606A** Seminar: A Literary Type: American Literature (3)

**ENGL 625** Literature of the United States (3)

**ENGL 700** Seminar: A Major Author or Authors (3)

**ENGL 725** Seminar: Issues in Literature of the United States (3)

(With the prior 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, 15 units selected from other English and comparative literature departmental graduate offerings. At least six units of these elective units must be taken outside of specialization and from other specializations within the English M.A. program. 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) – ENGL 799A (3 units)

**Plan B:** (Portfolio Assessment and Defense) – ENGL 790 or an additional three unit 700-level course in English with the approval of the graduate adviser.

**Specialization in British Literature**

(Major Code: 15011) (SIMS Code: 112104)

Core Course (3 units):

**ENGL 600** Introduction to Graduate Study (3)

**British Literature Research Focus.** With prior approval by the graduate adviser, a student will select nine units from the following:

**ENGL 604B** Seminar: British Literary Period or Movement (3)

**ENGL 624** British Literature (3)

**ENGL 700** Seminar: A Major Author or Authors (3)

**ENGL 724** Seminar: Issues in British Literature (3)

(With the prior 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, 15 units selected from other English and comparative literature departmental graduate offerings. At least six of these elective units must be taken outside of specialization and from other specializations within the English M.A. program. 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) – ENGL 799A (3 units)
- Plan B: (Portfolio Assessment and Defense) – ENGL 790 or an additional three unit 700-level course in English with the approval of the graduate adviser.

Specialization in Children's Literature (Major Code: 15011) (SIMS Code: 112107)

Core Course (3 units):
- ENGL 600 Introduction to Graduate Study (3)

Children's Literature Research Focus. With prior approval by the graduate adviser, a student will select nine units from the following:
- ENGL 604D Seminar: Children's Literature Literary Period or Movement (3)
- ENGL 606D Seminar: Children's Literature Literary Type (3)
- ENGL 700 Seminar: A Major Author or Authors (3)
- ENGL 727 Seminar: Issues in Children's Literature (3)

(With the prior consent of the graduate adviser, ENGL 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, 15 units selected from other English and comparative literature departmental graduate offerings. At least six of these elective units must be taken outside of specialization and from other specializations within the English M.A. program. 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) – ENGL 799A (3 units)
- Plan B: (Portfolio Assessment and Defense) – ENGL 790 or an additional three unit 700-level course in English with the approval of the graduate adviser.

Specialization in Comparative Literature (Major Code: 15011) (SIMS Code: 112115)

Core Course (3 units):
- ENGL 600 Introduction to Graduate Study (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:
  - ENGL 626 Comparative Literature (3)
  - ENGL 700 Seminar: A Major Author or Authors (3)
  - ENGL 726 Seminar: Issues in Comparative Literature (3)

(With the prior consent of the graduate adviser, ENGL 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, 15 units selected from other English and comparative literature departmental graduate offerings. At least six of these elective units must be taken outside of specialization and from other specializations within the English M.A. program. 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) – ENGL 799A (3 units)
- Plan B: (Portfolio Assessment and Defense) – ENGL 790 or an additional three unit 700-level course in English with the approval of the graduate adviser.

Specialization in Rhetoric and Writing (Major Code: 15011) (SIMS Code: 112160)

Core Course (3 units):
- ENGL 600 Introduction to Graduate Study (3)

Rhetoric and Writing Research Focus. With prior approval by the graduate adviser, a student will select nine units from the following:
- RWS 600 Reading and Writing Rhetorically (3)
- RWS 601A History of Rhetoric I (3)
- RWS 602 Modern Rhetoric and Composition Studies (3)
- RWS 640 Research Methods in Rhetoric and Writing Studies (3)

Electives: Diversification in Literary and Writing Research. With the approval of the graduate adviser, 15 units selected from other English and comparative literature departmental graduate offerings. At least six of these elective units must be taken outside of specialization and from other specializations within the English M.A. program. 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) – ENGL 799A (3 units)
- Plan B: (Portfolio Assessment and Defense) – ENGL 790 or an additional three unit 700-level course in English with the approval of the graduate adviser.

Master of Fine Arts Degree in Creative Writing

Admission to the Degree Curriculum

STUDENTS WILL BE ADMITTED TO THE M.F.A. IN CREATIVE WRITING ONLY IN THE FALL SEMESTER AND COMPLETE APPLICATIONS MUST BE RECEIVED NO LATER THAN FEBRUARY 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.

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.

If deficient, the applicant must complete undergraduate requirements commensurate with the proposed focus in the M.F.A. program. The applicant normally must achieve a minimum score of 300 on the Graduate Record Examination, with a minimum of 156 on the verbal section.

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 classified admission to the program. The graduate coordinator shall specify the conditions for such admission with the proviso that any prerequisite 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 and the approval of the dean of the Division of Graduate Affairs. 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 Four of this bulletin. Candidates for the M.F.A. degree must have completed a minimum of 34 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. After a student has filed an official program of study and advanced to candidacy, the student must enroll in English 797 and 799A if pursuing Plan A (Thesis) or six units of manuscript preparation (English 791) if pursuing manuscript option (Plan B).

If the student chooses to pursue thesis option (English 797 and 799A) instead of enrolling in six units of manuscript preparation (English 791), the student is required to have the approval of the M.F.A. graduate adviser. The M.F.A. creative writing committee must have approved a thesis topic and must recommend the appointment of a thesis adviser from the student's area of focus (fiction or poetry). After advancement to candidacy, the student must enroll in and complete English 797 and 799A if pursuing Plan A or six units of English 791 if pursuing Plan B.

In addition, the M.F.A. 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 797 and 799A.

Specific Requirements for the Master of Fine Arts Degree in Creative Writing

(Major Code: 15071) (SIMS Code: 112121)

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. Creative Writing Research Focus. Student to select one 24-unit research focus as follows:
   A. Fiction
      18 units of ENGL 750F.
      Six units in another genre of creative writing.
   B. Poetry
      18 units of ENGL 750P.
      Six units in another genre of creative writing.

2. Literature Research. An 18-unit literature research component divided as follows:
   A. Three units selected from the following:
      ENGL 630 Form and Theory of Poetry (3)
      ENGL 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:
      ENGL 700 Seminar: A Major Author or Authors (3)
      ENGL 724 Seminar: Issues in British Literature (3)
      ENGL 725 Seminar: Issues in Literature of the United States (3)
      ENGL 726 Seminar: Issues in Comparative Literature (3)
      ENGL 727 Seminar: Issues in Children's Literature (3)
      ENGL 784 Seminar: Creative Non-Fiction (3)
      ENGL 796 Internship (3) Cr/NC
      OR
      ENGL 798 Special Study (3) Cr/NC/RP with consent of instructor.

3. Six units of electives selected with consent of adviser.

4. Thesis. Six units in preparation of the thesis; a book-length creative work. Select A. Thesis or B. Manuscript:
   A. Thesis
      ENGL 797 Thesis Research (3)
      ENGL 799A Thesis (3) Cr/NC/RP
   B. Manuscript
      ENGL 791A Seminar in MFA Manuscript: Poetry (3)
      ENGL 791B Seminar in MFA Manuscript: Fiction (3)

Advanced Certificate in Children's/Adolescent Literature

(SIMS Code: 112109)

The Department of English and Comparative Literature offers an Advanced Certificate in Children's/Adolescent Literature for those who may already have M.A. or Ph.D.s in other fields, for those who wish to undertake a shorter schedule of study than required for the M.A., for those wishing to update their knowledge (parents, teachers, librarians), and for postbaccalaureate students interested in children's and adolescent books. Teachers and other professionals will use the certificate for advancement in employment; other students will find it to be an excellent professional entree or upgrade in publishing, editing, writing, or selling children's books.

A 3.0 grade point average is required of matriculated students. Non-matriculated students’ applications will be reviewed for relevant and sufficient preparation.

The advanced certificate requires 12 units selected from English 604D, 606D, 700, 727, and three to six units of the 12 units selected from English 501, 502, 503. Units taken to complete the advanced certificate may be applied to an M.A. degree in English or Comparative Literature with approval of the graduate adviser. Contact the director of the children's literature program for additional information.

Courses Acceptable for the Master's Degree Programs in Creative Writing and English (ENGL) (C LT)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

English (ENGL)

UPPER DIVISION COURSES

ENGL 501. Literature for Children (3)
Prerequisites: Six lower division units in literature and/or creative writing. Critical analysis of literature intended for children. Study of texts and illustrations. This course cannot be used in place of English 401 to satisfy General Education requirements.

ENGL 502. Adolescence in Literature (3)
Prerequisites: Six lower division units in literature and/or creative writing. Works centrally concerned with an adolescent protagonist. Includes both traditional novels of development (Bildungsroman) and contemporary young adult novels.

ENGL 503. Topics in Children's Literature (3)
Prerequisites: Six lower division units in literature and/or creative writing. Topics in children's and adolescents' literatures such as realismism, multiculturalism, fantasy, science fiction, non-fiction, illustrated books, nineteenth-century classics, major works by twentieth-century authors, British children's literature, the noir young adult novel, and the history of genre. Maximum credit six units.
ENGL 508W. The Writing of Criticism (3)
Prerequisites: Six lower division units in literature and/or creative writing. Satisfies Graduation Writing Assessment Requirement for students who have completed 60 units; completed Written Placement Assessment with a score of 8 or higher (or earned a grade of C (2.0) or better in Rhetoric and Writing Studies 280, 281 [or Linguistics 281] if score on WPA was 6 or lower); and completed General Education requirements in Composition and Critical Thinking. Proof of completion of prerequisites required: Test scores or verification of exemption; 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.

ENGL 510A. Earlier Histories of British and American Literature (3)
Prerequisites: Six lower division units in literature and/or creative writing. Historical movements and developments in English language literature before 1800. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

ENGL 510B. Later Histories of British and American Literature (3)
Prerequisites: Six lower division units in literature and/or creative writing. Historical movements and developments in English language literature after 1800. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

ENGL 519. Ethnic Literatures of the United States (3)
Prerequisites: Six lower division units in literature and/or creative writing. Works from United States ethnic literatures, with emphasis on formerly excluded traditions as African-American, Hispanic and Chicano, Asian-American, and American Indian.

ENGL 521. Early American Literature (3)
Prerequisites: Six lower division units in literature and/or creative writing. Representative works by American writers from the colonial period through the Revolution; to include works by Anne Bradstreet, Phillis Wheatley, Claudiah Equiano, Cotton Mather, Jonathan Edwards, Benjamin Franklin, Thomas Jefferson, various Native American speakers and writers, and others. See Class Schedule for specific content.

ENGL 522. Literature of the United States, 1800-1860 (3)
Prerequisites: Six lower division units in literature and/or creative writing. Representative works by United States writers from 1800 to 1860; likely to include works by Emerson, Hawthorne, Melville, Poe, Stowe, Thoreau, Whitman, and others. See Class Schedule for specific content.

ENGL 523. Literature of the United States, 1860-1920 (3)
Prerequisites: Six lower division units in literature and/or creative writing. Representative works by United States writers from 1860 to 1920; likely to include works by Charles Chesnutt, Kate Chopin, Stephen Crane, Emily Dickinson, Henry James, Mark Twain, Edith Wharton, and others. See Class Schedule for specific content.

ENGL 524. Literature of the United States, 1920-1960 (3)
Prerequisites: Six lower division units in literature and/or creative writing. Representative works by United States writers from 1920 to 1960; likely to include works by F. Scott Fitzgerald, Ernest Hemingway, Zora Neale Hurston, Eugene O’Neill, Katherine Anne Porter, Ezra Pound, John Steinbeck, and others. See Class Schedule for specific content.

ENGL 525. Literature of the United States, 1960 to Present (3)
Prerequisites: Six lower division units in literature and/or creative writing. United States writers from 1960 to the present; likely to include works by Edward Albee, Saul Bellow, Allen Ginsberg, Joseph Heller, Maxine Hong Kingston, Norman Mailer, Toni Morrison, Sylvia Plath, Adrienne Rich, Kurt Vonnegut, Eudora Welty, and others. See Class Schedule for specific content.

ENGL 526. Topics in Literature of the United States (3)
Prerequisites: Six lower division units in literature and/or creative writing. Topics in United States literature to include the literature of the South, Black writers in the U.S., the frontier and U.S. literature, the outcast in U.S. literature, the immigrant experience in U.S. literature. May be repeated with new title and content. See Class Schedule for specific content. Maximum credit six units.

ENGL 527. Genre Studies (3)
Prerequisites: Six lower division units in literature and/or creative writing. Study of a specific literary genre or genres, such as the novel, tragedy, epic, and lyric. May be repeated with new title and content. See Class Schedule for specific content. Maximum credit six units.

ENGL 528. Authors (3)
Prerequisites: Six lower division units in literature and/or creative writing. Works of a major author or, if useful comparisons and juxtapositions warrant, works of two or three authors, such as Jane Austen, Melville, Emerson, and Thoreau. May be repeated with new title and content. See Class Schedule for specific content. Maximum credit six units.

ENGL 530. Chaucer (3)
Prerequisites: Six lower division units in literature and/or creative writing. Chaucer’s works, with emphasis on The Canterbury Tales and Troilus and Criseyde.

ENGL 533. Shakespeare (3)
Prerequisites: Six lower division units in literature and/or creative writing. An introduction to the writings of Shakespeare. This course cannot be used in place of English 302 to satisfy General Education requirements.

ENGL 534. Study of Shakespeare (3)
Prerequisite: English 533. Advanced study of Shakespeare’s achievement as poet and playwright. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

ENGL 536. British Literary Periods, Beginnings to 1660 (3)
Prerequisites: Six lower division units in literature and/or creative writing. Study of a literary period such as the Middle Ages or Renaissance. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

ENGL 537. Milton (3)
Prerequisites: Six lower division units in literature and/or creative writing. Milton’s writings, with emphasis on Paradise Lost.

ENGL 540A-540B. English Fiction (3-3)
Prerequisites: Six lower division units in literature and/or creative writing. 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. See Class Schedule for specific content.

ENGL 541A-541B. English Drama (3-3)
Prerequisites: Six lower division units in literature and/or creative writing. English dramatic literature from its beginnings to the present. Semester I: From the beginning to 1642. Semester II: Period following reopening of the theatres in 1660. See Class Schedule for specific content.

ENGL 542. British Literary Periods, 1660-1800 (3)
Prerequisites: Six lower division units in literature and/or creative writing. Study of a literary period such as the Restoration or Enlightenment. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

ENGL 543. British Literary Periods, 1800-1900 (3)
Prerequisites: Six lower division units in literature and/or creative writing. Study of a literary period such as the Romantic or Victorian Age. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

ENGL 544. British Literary Periods, 1900-Present (3)
Prerequisites: Six lower division units in literature and/or creative writing. Study of a literary period such as the Postmodern Era. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

ENGL 549. Topics in English Literature (3)
Prerequisites: Six lower division units in literature and/or creative writing. 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.
ENGL 550. Queer Texts and Contexts (3)
Prerequisites: Six lower division units in literature and/or creative writing. Queer knowledge and identities as expressed in literature and culture, to include queer theory, history, and experience. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

ENGL 562. Digital Methods in Literary Studies (3)
Prerequisite: Six lower division units in literature and/or creative writing or graduate standing.
Analyzing digitized literary texts and creating born-digital literature. Studying and creating literature digitally. See Class Schedule for specific content. May be repeated with new content. Maximum credit six units.

ENGL 563. Literature and Culture (3)
Prerequisites: Six lower division units in literature and/or creative writing.
Study of literature in relation to a specific culture idea or phenomenon, such as literature and the law, literature and technology. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

ENGL 570. Techniques of Poetry (3)
Prerequisites: Three lower division units in literature and/or creative writing and English 280.
Techniques of poetry from the writer’s point of view. Introduction to critical and theoretical literature on poetry. Includes a creative writing workshop.

ENGL 571. Techniques of the Short Story (3)
Prerequisites: Three lower division units in literature and/or creative writing and 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.

ENGL 573. Techniques of the Novel (3)
Prerequisites: Three lower division units in literature and/or creative writing and English 280.
Techniques of the novel from the writer’s point of view. Introduction to critical and theoretical literature on the novel. Includes a creative writing workshop.

ENGL 576A. Literary Publishing and Editing Workshop A (3)
Prerequisites: Six lower division units in literature and/or creative writing. Survey of literary publishing and editing industry. Practical experience in a variety of publishing and editing skills, interaction with industry professionals, and critical writing. See Class Schedule for specific content. (Formerly numbered English 576.)

ENGL 576B. Literary Publishing and Editing Workshop B (3)
Prerequisite: English 576A.
Practical experience in small-press literary publishing. Expands on skills in creating and running a press to publish both print and digital texts. Tutorials and guest lectures. See Class Schedule for specific content.

ENGL 577. Techniques of Screenwriting (3)
Prerequisites: Six lower division units in literature and/or creative writing and English 280.
Techniques of screenwriting. Introduction to critical and theoretical literature on screenwriting. Includes a creative writing workshop.

ENGL 579. Topics in Creative Writing (3)
Prerequisites: Three lower division units in literature and/or creative writing and English 280.
Acceptable topics 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.

ENGL 580. Writing of Poetry (3)
Prerequisites: Six lower division units in literature and/or creative writing and English 570.
A creative writing workshop in poetry. Continuation of English 570. Maximum credit six units.

ENGL 581W. Writing of Fiction (3)
Prerequisites: Three lower division units in literature and/or creative writing and English 280. Satisfies Graduation Writing Assessment Requirement for students who have completed 60 units; completed Writing Placement Assessment with a score of 8 or higher (or earned a grade of C (2.0) or better in Rhetoric and Writing Studies 280, 281 [or Linguistics 281] if score on WPA was 6 or lower); and completed General Education requirements in Composition and Critical Thinking. Proof of completion of prerequisites required: Test scores or verification of exemption; copy of transcript.
A creative writing workshop in fiction. Continuation of English 571. Maximum credit six units.

ENGL 584W. Writing Informal Essays (3)
Prerequisites: Three lower division units in literature and/or creative writing and English 280. Satisfies Graduation Writing Assessment Requirement for students who have completed 60 units; completed Writing Placement Assessment with a score of 8 or higher (or earned a grade of C (2.0) or better in Rhetoric and Writing Studies 280, 281 [or Linguistics 281] if score on WPA was 6 or lower); and completed General Education requirements in Composition and Critical Thinking. Proof of completion of prerequisites required: Test scores or verification of exemption; copy of transcript.
A creative writing workshop in nonfiction, especially the essay as an art form. Maximum credit six units.

ENGL 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 degree. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

Comparative Literature (C LT)

UPPER DIVISION COURSES

C LT 513. Nineteenth Century European Literature (3)
Prerequisites: Six units in literature. European literature of the nineteenth century or of a more limited period within that century. May be repeated with new content. Maximum credit six units.

C LT 561. Fiction (3)
Prerequisites: Six units in literature.
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.

C LT 570. Ecocriticism (3)
Prerequisites: Six units in literature and/or creative writing.
In-depth study of the works of a major author, such as Dante, Garcia Marquez, Murasaki, or Dostoyevsky. May be repeated with new title and content. See Class Schedule for specific content. Maximum credit six units.

C LT 580. Concepts in Comparative Studies (3)
Prerequisites: Six units in literature.
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.

C LT 594. Topics in Literature and the Arts (3)
Prerequisites: 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. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a bachelor's degree. Maximum credit six units applicable to the M.F.A. degree in creative writing.
GRADUATE COURSES

ENGL 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 theory. Recommended for first-semester graduate students.

ENGL 604. Seminar: Literary Period or Movement (3)
Prerequisite: 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 applicable to a master's degree.
A. American Literature
B. British Literature
C. Children's Literature

ENGL 606. Seminar: A Literary Type (3)
Prerequisite: Twelve upper division units in English. 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 applicable to a master's degree.
A. American Literature
B. British Literature
C. Children's Literature

ENGL 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.

ENGL 625. Literature of the United States (3)
Prerequisite: Twelve upper division units in English, with courses in American literature strongly recommended. Selected works of an author, period, or subject in literature of the United States. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

ENGL 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 applicable to a master's degree.

ENGL 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.

ENGL 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.

ENGL 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 combined credit of six units of 526 or 549 applicable to a 30-unit master's degree. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

ENGL 700. Seminar: A Major Author or Authors (3)
Prerequisite: English 600. Critical study of a major author or authors such as William Shakespeare, Charles Dickens, Edith Wharton, Marcel Proust, Gabriel García Márquez, Toni Morrison and others. May be repeated with new content. Maximum credit six units applicable to a master's degree.

ENGL 724. Seminar: Issues in British Literature (3)
Prerequisite: English 600. 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 applicable to a master's degree.

ENGL 725. Seminar: Issues in Literature of the United States (3)
Prerequisite: English 600. Advanced study of such issues as postmodernity, regionalism, ethnicity, the urban experience, gender, the political novel. May be repeated with new content. Maximum credit six units applicable to a master's degree.

ENGL 726. Seminar: Issues in Comparative Literature (3)
Prerequisite: English 600. Advanced study of an issue such as translation, negritude, cultural studies, semiotics, deconstruction, or literature and censorship. May be repeated with new content. Maximum credit six units applicable to a master's degree.

ENGL 727. Seminar: Issues in Children's Literature (3)
Prerequisite: Six units of approved 500- or 600-level courses. Issues and topics of special interest to children's literature, such as gender depictions, commodification, cross-over writing, and regionalism. Maximum credit six units applicable to a master's degree.

ENGL 750F. M.F.A. Seminar: Fiction Writing (3)
Prerequisite: Open only to students admitted to M.F.A. in creative writing. Advanced seminar in fiction writing. May include readings in contemporary fiction and narrative theory. Students in fiction focus must take course six times, generating new work each time with various instructors. Maximum credit 18 units applicable to a master's degree.

ENGL 750P. M.F.A. Seminar: Poetry Writing (3)
Prerequisite: Open only to students admitted to M.F.A. in creative writing. Advanced seminar in poetry writing. May include readings in contemporary poetry and theory. Students in poetry focus must take course six times, generating new work each time with various instructors. Maximum credit 18 units applicable to a master's degree.

ENGL 784. Seminar: Creative Non-Fiction (3)
Prerequisite: Six units of graduate level creative writing courses. Advanced approach to writing book reviews and short critical essays. Professional focuses necessary for these forms. Emphasis on writing, reading, research, and direct function of these processes.

ENGL 790. Seminar: Portfolio/Examination Preparation (3) Cr/NC
Prerequisites: Twenty-four units of approved 500- or 600-level courses. Advanced study of the major author or authors. Preparation, with close faculty supervision, of scholarly essays for portfolio assessment and oral defense. Advanced study of critical approaches, development of sophisticated research methodology, and close attention to scholarly writing.

ENGL 791A. Seminar in M.F.A. Manuscript: Poetry (3) Cr/NC
Prerequisite: Completion of two years of study in the MFA program. Techniques of manuscript construction from a poet's point of view. Students work on draft of a manuscript of poetry to include discussion of first books by major authors and a creative writing workshop. Maximum credit six units in English 791A applicable to a master's degree.
ENGL 791B. Seminar in M.F.A. Manuscript: Fiction (3) Cr/NC
Prerequisite: Completion of two years of study in the MFA program.
Techniques of manuscript construction from a fiction writer’s point of view. Students work on draft of a manuscript of fiction to include discussion of first books by major authors and a creative writing workshop. Maximum credit six units in English 791B applicable to a master’s degree.

ENGL 796. Internship (3) Cr/NC
Prerequisites: Advancement to candidacy for the Master 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. Maximum credit nine units applicable to an M.F.A. degree with approval of graduate adviser.

ENGL 797. Thesis Research (3) Cr/NC/RP
Prerequisite: Advancement to candidacy in the M.F.A. degree in creative writing.
Independent work in general field of candidate’s thesis project.

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

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

ENGL 799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP 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.

ENGL 799C. Comprehensive Examination Extension (0) Cr/NC
Prerequisite: Completion or concurrent enrollment in degree program courses.
Registration required of students whose only requirement is completion of the comprehensive examination for the master’s degree. Registration in 799C limited to two semesters.
Exercise Physiology
In the School of Exercise and Nutritional Sciences
In the College of Health and Human Services

OFFICE: Exercise and Nutritional Sciences 351
TELEPHONE: 619-594-5541
https://ens.sdsu.edu

Faculty
Matthew T. Mahar, Ed.D., Professor of Exercise and Nutritional Sciences, Director of School
Michael J. Buono, Ph.D., Professor of Exercise and Nutritional Sciences
Larry S. Verily, Ph.D., Professor of Exercise and Nutritional Sciences and Interim Dean of the College of Health and Human Services
Shirin Hooshmand-Yazdi, Ph.D., Associate Professor of Exercise and Nutritional Sciences
Harsimran Baweja, Ph.D., Assistant Professor of Exercise and Nutritional Sciences
Daniel T. Cannon, Ph.D., Assistant Professor of Exercise and Nutritional Sciences
Jochen Kressler, Ph.D., Assistant Professor of Exercise and Nutritional Sciences

Associateships and Assistantships
Graduate teaching associateships are available for a limited number of qualified students. These provide essential education, technical training, and creative experience necessary for future professional and scholarly activity or college-level teaching. Graduate assistantships are also available in some cases to aid faculty research. Applications and additional information on graduate programs may be obtained from the School of Exercise and Nutritional Sciences website at http://ens.sdsu.edu.

General Information
The School of Exercise and Nutritional Sciences offers graduate study leading to the Master of Science degree in exercise physiology and a concurrent graduate program leading to a Master of Science degree in nutritional science and Master of Science degree in exercise physiology. The major objective of the concurrent graduate program is to offer preparation in the interrelated fields of nutritional science and exercise physiology. In order to be granted permission to enroll in coursework leading to completion of the didactic program in dietetics (accredited by the Accreditation Council for Education in Nutrition and Dietetics), students admitted to the Master of Science degree in nutritional sciences, or the concurrent Master of Science degree in nutritional science and Master of Science degree in exercise physiology, must have completed all of the following (or equivalent courses) with a GPA of 3.1 or better: Biology 100, 100L, 211, 211L, 212, 336; Chemistry 100, 130, 160; and a statistics course (e.g. Psychology 280).

The Master of Science degree in exercise physiology has strong theoretical and practical components that provide a basis for students who anticipate employment in the field of rehabilitative and/or preventive exercise, as well as for those who intend to pursue a doctoral degree in exercise science. The faculty includes researchers who are professionally active in areas of study such as thermoregulation, nutrition and metabolism, exercise and aging, cardiac and metabolic pathophysiology, and environmental physiology. The school provides the students an opportunity to gain exercise-related experience under the close supervision of faculty. Graduate students learn pragmatic skills, such as physiological testing, exercise training, and participant education in the field of preventive and clinical exercise programming.

Admission to Graduate Study
All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the School of Exercise and Nutritional Sciences.

Graduate Admissions
The following materials should be submitted as a complete package directly to:
Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;
NOTE:
• Students who attended SDSU need only submit transcripts for work completed since last attendance.
• Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.
(2) GRE scores (http://www.ets.org SDSU institution code 4682);
(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

Master of Science Degree in Exercise Physiology

General Information
The Master of Science degree in exercise physiology provides students with science courses in exercise physiology along with clinical application. The faculty are active researchers in areas of study to include thermoregulation and environmental physiology, fatigue and exercise intolerance, nutrition and metabolism, and respiratory control in healthy and diseased populations. Students learn laboratory skills and the physiological explanation of responses to exercise, and are provided the opportunity to gain exercise-related research experience under close faculty supervision.

Admission to the Degree Curriculum
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 exercise physiology must meet the following requirements.

1. A bachelor’s degree. Applicants who do not have an undergraduate major in kinesiology or related discipline may be admitted to conditionally classified graduate standing on the recommendation of the graduate adviser of the school. Students will be required to complete or have equivalent preparation in Biology 212, 336, Exercise and Nutritional Sciences 303, 304, 304L, and an undergraduate statistics course.
2. A grade point average (GPA) of at least 3.0 in the last 60 units of coursework.
3. A minimum score of 475 (old GRE score) or 151 (new GRE score) on the verbal and 475 (old GRE score) or 142 (new GRE score) on the quantitative sections of the GRE General Aptitude Test.

Students will be admitted ONLY in the fall semester.
Exercise Physiology

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

Specific Requirements for the Master of Science Degree

(Major Code: 08355) (SIMS Code: 556521)

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 Four of this bulletin. The 36-unit program includes a minimum of 29 units of 500-, 600-, 700-, and 800-level coursework in the School of Exercise and Nutritional Sciences. No more than six units of 500-level coursework with the approval of the graduate adviser will apply to the program of study. The remaining units must be selected from courses listed in this bulletin as acceptable for master's degree programs. Students complete the degree by choosing either Plan A or Plan B. If students select Plan A, Exercise and Nutritional Sciences 799A (Thesis) is required for completion of the degree, accompanied by a final oral examination in the field of the thesis and on the implications of the thesis research for the broader field of exercise physiology. If students select Plan B, Exercise and Nutritional Sciences 790 (Seminar in Directed Readings) is required for completion of the degree.

Students are required to develop and sign a formal plan of study which must be approved by both a faculty adviser and the graduate adviser. This official program of study is developed when the student has completed between 12 and 21 units of study, and must be filed with the Division of Graduate Affairs as a prerequisite for advancement to candidacy.

The school expects the student to complete the degree within seven years. Failure to complete the degree requirements within seven years will result in dismissal from the program.

Required courses (36 units):

- DPT 750 Concepts in Physiology, Pathophysiology, and Pharmacology (4)
- DPT 830 Cardiopulmonary Therapeutics (4)
- ENS 601 Experimental Methods in Exercise and Nutritional Sciences (3)
- ENS 602 Research Evaluation in Exercise and Nutritional Sciences (3)
- ENS 632 Physiological Chemistry of Exercise (3)
- ENS 661 Seminar in Advanced Physiology of Exercise (3)
- ENS 662 Exercise Physiology Laboratory (3)
- ENS 796 Exercise Specialist Internship (1-3) Cr/NC
- ENS 799A Thesis or Project (3) Cr/NC/RP
- ENS 790 Seminar in Directed Readings (3) Cr/NC

Electives: Seven units to be selected with approval of graduate adviser.

Master of Science Degree in Nutritional Science and Master of Science Degree in Exercise Physiology

Admission to the Degree Curriculum
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 concurrent program in nutritional science and exercise physiology must meet the following requirements.

1. A grade point average (GPA) of at least 3.0 overall or at least 3.0 in the last 60 units of baccalaureate coursework.
2. A bachelor's degree in foods and nutrition, exercise science, kinesiology, physical education, or related fields. Students will be required to complete or have equivalent preparation in Biology 212, 336, Chemistry 100, 130, 160, Nutrition 201, 302, 302L, and Exercise and Nutritional Sciences 303, 304, 304L, and an undergraduate statistics course.
3. A minimum score of 475 (old GRE score) or 151 (new GRE score) on the verbal and 475 (old GRE score) or 142 (new GRE score) on the quantitative sections of the GRE General Aptitude Test.

Students will be admitted ONLY in the fall semester.

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

Specific Requirements for the Master of Science in Nutritional Science and Master of Science in Exercise Physiology

(Major Code: 08356) (SIMS Code: 552990)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Four of this bulletin, the student must complete an officially approved course of study of not less than 48 units as outlined below. Also, students complete their degree by choosing either Plan A or Plan B. In Plan A, students will include Nutrition 799A (thesis) or Exercise and Nutritional Sciences 799A (thesis) for completion of their degree, accompanied by a final oral examination on the field of the thesis and on the implications of the thesis research for the broader field of exercise and nutritional sciences. If students select Plan B, Exercise and Nutritional Sciences 790 (Directed Readings) is required for completion of the degree.

DPT 750 Concepts in Physiology, Pathophysiology, and Pharmacology (4)
DPT 830 Cardiopulmonary Therapeutics (4)
ENS 601 Experimental Methods in Exercise and Nutritional Sciences (3)
ENS 602 Research Evaluation in Exercise and Nutritional Sciences (3)
ENS 661 Seminar in Advanced Physiology of Exercise (3)
ENS 662 Advanced Exercise Physiology Laboratory (3)
ENS 796 Exercise Specialist Internship (3) Cr/NC
NUTR 600 Seminar: Foods and Nutrition (3)
NUTR 607 Child Nutrition (3)
NUTR 608 Geriatric Nutrition (3)
NUTR 610 Nutrition and Energy (3)
NUTR 700 Seminar in Nutrition (3)

Plan A
NUTR 799A Thesis (3) Cr/NC/RP
ENS 799A Thesis (3) Cr/NC/RP

OR

or Plan B
ENS 790 Seminar in Directed Readings (3) Cr/NC
Electives: Seven units to be selected with approval of graduate adviser.

If a student, after entering the concurrent program leading to a Master of Science degree in nutritional science and a Master of Science degree in exercise physiology returns to a single degree program, all the requirements for the single degree program must then be met.

The school expects the student to complete the degree requirements within seven years. Failure to complete the degree requirements within seven years will result in dismissal from the program.
Courses Acceptable for Master's Degree Programs (ENS)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

Exercise and Nutritional Sciences (ENS)

UPPER DIVISION COURSE

ENS 596. Selected Topics in Exercise and Nutritional Sciences (1-3)
Selected topics in exercise and nutritional sciences. 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 degree. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

Exercise and Nutritional Sciences (ENS)

GRADUATE COURSES

ENS 601. Experimental Methods in Exercise and Nutritional Sciences (3)
Prerequisite: Undergraduate statistics course. Experimental methods in exercise and nutritional science.

ENS 602. Research Evaluation in Exercise and Nutritional Sciences (3)
Prerequisite: Exercise and Nutritional Sciences 601. Techniques in designing, conducting, and reporting research in exercise and nutritional science. Qualitative and quantitative paradigms examined. Ethical consideration of human research.

ENS 632. Physiological Chemistry of Exercise (3)
Prerequisite: Exercise and Nutritional Sciences 661. Biochemical and metabolic responses of the human body to acute and chronic exercise. Neuroendocrine control of fuel regulation during exercise.

ENS 659. Exercise Cardiology and Pathology (3)
Prerequisites: Exercise and Nutritional Sciences 304 and 304L. Interpretation of resting and exercise electrocardiograms with cardiopulmonary pathologies that skew interpretations.

ENS 661. Seminar in Advanced Physiology of Exercise (3)

ENS 662. Advanced Exercise Physiology Laboratory (3)
Nine hours of laboratory. Prerequisites: Exercise and Nutritional Sciences 304, 304L, and admission to program in Exercise Physiology. Laboratory course designed to develop competency in respiratory metabolism pulmonary function, gas analysis, blood chemistry and ergometry. Experience in the application of exercise procedures with human subjects and analysis and interpretation of results.

ENS 666. Adult Fitness: Exercise Prescription (3)
Prerequisites: Exercise and Nutritional Sciences 304 and 304L. Physical conditioning programs for the prevention, rehabilitation, and control of diseases associated with aging adults. Topics include disease etiology, health/disease evaluation, and exercise prescription for apparently healthy and diseased adults.

ENS 696. Advanced Topics in Exercise and Nutritional Sciences (3)
Intensive study in specific areas of exercise and nutritional sciences. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

ENS 790. Seminar in Directed Readings (3) Cr/NC
Prerequisites: Exercise and Nutritional Sciences 602 and advancement to candidacy. Preparation for comprehensive examination for students pursuing either an M.A. or an M.S. degree under Plan B.

ENS 796. Exercise Specialist Internship (1-3) Cr/NC
Three hours of laboratory per unit. Prerequisites: Exercise and Nutritional Sciences 662 and Doctor of Physical Therapy 830. Supervised application of exercise laboratory testing, test interpretation, exercise prescription and exercise leadership in adult fitness, corporate fitness, preventive medicine and/or hospital disease rehabilitation setting.

ENS 798. Special Study (1-3) Cr/NC/RP
Prerequisite: Consent of school director. Individual study. Maximum credit six units applicable to a master's degree.

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

ENS 799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis or Project 799A with an assigned grade symbol of RP. Registration required in any semester or term following assignment of RP 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.

ENS 799C. Comprehensive Examination Extension (0) Cr/NC
Prerequisite: Completion or concurrent enrollment in degree program courses. Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.

Finance

Refer to “Business Administration” in this section of the bulletin.
French
In the Department of European Studies
In the College of Arts and Letters

GENERAL INFORMATION
Research areas of the graduate faculty cover most periods of French and Francophone literature and culture. In particular, the department includes specialists in fields such as Francophone literature and cultural studies, medieval and renaissance cultural studies, eighteenth century literature, theatre and film studies, and second language acquisition and technology. SDSU houses a federally-funded National Language Resource Center, which conducts research and dissemination projects in all areas of language and culture. Further, we have a state-of-the-art research library.

The graduate program in French offers opportunities for well-qualified M.A. candidates to complete up to nine units of their 30 unit official program on a study abroad program. Graduate students may participate in the CSU International Programs, ISEP, or the SDSU Paris Semester. An M.A. degree earned in the program can provide students with university-level teaching experience and access to community college level teaching positions. Students who earn an M.A. in French at SDSU may also continue on to a Ph.D. program or pursue a variety of careers in areas where knowledge of French language and culture are necessary.

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 30 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) a minimum score of 500 on the verbal section and 450 on the quantitative section of the Graduate Record Examination (GRE) General Test.

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee. All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the Department of European Studies.

Graduate Admissions
The following materials should be submitted as a complete package directly to: Graduate Admissions Enrollment Services San Diego State University San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;
NOTE:
• Students who attended SDSU need only submit transcripts for work completed since last attendance.
• Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.
(2) GRE scores (http://www.ets.org SDSU institution code 4682);
(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

DEPARTMENT OF EUROPEAN STUDIES
The following materials should be mailed or delivered to: Department of European Studies (Attention: Graduate Adviser) San Diego State University 5500 Campanile Drive San Diego, CA 92182-7704

(1) 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 (in sealed and signed envelopes);
(2) A writing sample (your best paper written in French, preferably for a literature class);
(3) The filled out graduate teaching assistant application form if you are interested in teaching French in the program. The graduate teaching assistant form should be requested from the graduate adviser for the M.A. in French before the application deadline.

ADVANCEMENT TO CANDIDACY
All students will be required to pass a qualifying examination in French given by the Department of European Studies. This examination will also satisfy the foreign language requirement as stated in Part Four of this bulletin.

SPECIFIC REQUIREMENTS FOR THE MASTER OF ARTS DEGREE

(Major Code: 11021) (SIMS Code: 112701)
In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Four 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.

ASSOCIATESHIPS
Graduate teaching associateships in French are available to a limited number of qualified students. Application forms and additional information may be secured from the Department of European Studies.
Courses Acceptable for Master's Degree Program in French (FRENC)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

**UPPER DIVISION COURSES**

All upper division courses in French are taught in French unless otherwise stated.

Related 500-level courses in other departments may be taken for a total of six units credit with prior approval of the graduate adviser.

**FRENC 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.

**FRENC 520. French and Francophone Literary Studies (3)**
Prerequisites: French 302 and 305A or 305B.
Specialized study of a century, genre, movement or theme in French and Francophone literature. May be repeated with new title and content. See Class Schedule for specific content. Maximum credit six units.

**FRENC 530. French and Francophone Cultural Studies (3)**
Prerequisites: French 302 and 421 or 422.
Specialized study of artistic and intellectual trends, customs, and politics in French and Francophone culture. May be repeated with new title and content. See Class Schedule for specific content. Maximum credit six units.

**FRENC 596. Topics in French Studies (1-4)**
Prerequisite: French 302.
Topics in French literature, culture, 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 credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

**GRADUATE COURSES**

Related graduate level courses in other departments may be taken for a total of six units credit with prior approval of the graduate adviser.

**FRENC 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.

**FRENC 631. Issues in French and Francophone Studies (3)**
Prerequisite: Graduate standing.
Study of a theme, theoretical or literary movement, or historical moment. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

**FRENC 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

**FRENC 700. Seminar: A Major French or Francophone Author (3)**
Prerequisite: Eighteen upper division units in French.
In-depth study of works of a major French or Francophone author. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

**FRENC 710. Seminar in a Literary Genre (3)**
Prerequisite: Eighteen upper division units in French.
Study of a specific literary genre, e.g. poetry, novel, theater. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

**FRENC 720. Seminar in French and Francophone Culture and Civilization (3)**
Prerequisite: Eighteen upper division units in French.
Study of a specific topic in French and Francophone culture and civilization. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

**FRENC 798. Special Study (1-3) Cr/NC/RP**
Prerequisites: Advancement to candidacy and approval of graduate adviser.
Individual study. Maximum credit three units applicable to a master's degree.

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

**FRENC 799B. Thesis Extension (0) Cr/NC**
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP 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.

**FRENC 799C. Comprehensive Examination Extension (0) Cr/NC**
Prerequisite: Completion or concurrent enrollment in degree program courses.
Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.
Faculty
Piotr L. Jankowski, Ph.D., Professor of Geography, Chair of Department
Stuart C. Altken, Ph.D., Professor of Geography, The June Burnett Chair in Children’s and Family Geographies
Li An, Ph.D., Professor of Geography
Trent W. Biggs, Ph.D., Professor of Geography (Master’s Degree Program Adviser)
Fernando J. Bosco, Ph.D., Professor of Geography (Doctoral Program Adviser)
George Christakos, Ph.D., Professor of Geography, The Stephen and Mary Birch Foundation Chair in Geographical Studies
Pascale J. Marcelli, Ph.D., Professor of Geography
John F. O’Leary, Ph.D., Professor of Geography (Senate Distinguished Professor)
André Skupin, Ph.D., Professor of Geography
Douglas A. Stow, Ph.D., Albert W. Johnson Distinguished Professor of Geography
Ming-Hei Lang Tsou, Ph.D., Professor of Geography
Kathleen A. Farley Wolf, Ph.D., Associate Professor of Geography
Arielle S. Levine, Ph.D., Associate Professor of Geography
Hilary K. McMillan, Ph.D., Associate Professor of Geography
Katherine Elizabeth Swanson, Ph.D., Associate Professor of Geography
Fernando De Sales, Ph.D., Assistant Professor of Geography
Anne-Marie Debanné, Ph.D., Assistant Professor of Geography
Atsushi Nara, Ph.D., Assistant Professor of Geography

The June Burnett Chair in Children’s and Family Geographies
The Children’s and Family Geographies Chair was created in 2013 as part of the Department of Geography’s June Burnett Endowment. The chair is in support of the Center for Interdisciplinary Studies of Youth and Space (ISYS), and focuses on spatial research and therapeutic/ethnographic practices related to the well-being of children and young people. Professor Stuart C. Altken, internationally recognized for his research on children’s geographies, youth activism, critical theory, and qualitative methodologies is the first holder of the chair.

Assistantships
Approximately 45 graduate teaching assistants and graduate research associateships 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 associateships or research associateships for the master’s degree programs can be found at https://geography.sdsu.edu/programs/masters/apply.

One of the following systematic areas:

Group A – Systematic Areas
- Human Geography — Urban, Social, and Political Geography
- Environmental Geography — Society and Environment, Watershed/Ecosystems Analysis
- Physical Geography — Biogeography, Climatology, Hydrology, Landscape Ecology
- Geographic Information Science and Technology

Group B – Spatial Analytical Methods and Techniques
- Spatial Statistics
- Qualitative Methods and Ethnography
- Cartography and Internet Mapping
- Geocomputation and Spatial Modeling
- Geographic Information Systems (GIS)
- Remote Sensing and Image Processing
- Visualization and Visual Data Mining
- Spatial Decision Support Systems and Participatory GIS

Applications for associateships must include transcripts, three letters of recommendation, Graduate Record Examination (GRE) scores, and a statement of interests and goals. Our graduate teaching associateships program can prepare students for a teaching career.

General Information
The Department of Geography offers graduate study leading to the Master of Arts, Master of Science, and Doctor of Philosophy degrees in geography. These degrees provide the essential education, technical training, and creative experience necessary for professional activity or college-level teaching. Graduate programs are generally assigned around one of the following systematic areas:

Group A – Systematic Areas
- Human Geography — Urban, Social, and Political Geography
- Environmental Geography — Society and Environment, Watershed/Ecosystems Analysis
- Physical Geography — Biogeography, Climatology, Hydrology, Landscape Ecology
- Geographic Information Science and Technology

Group B – Spatial Analytical Methods and Techniques
- Spatial Statistics
- Qualitative Methods and Ethnography
- Cartography and Internet Mapping
- Geocomputation and Spatial Modeling
- Geographic Information Systems (GIS)
- Remote Sensing and Image Processing
- Visualization and Visual Data Mining
- Spatial Decision Support Systems and Participatory GIS

Each student’s program is designed around at least 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 California, Latin America, Mexico-U.S. borderlands, South Pacific Islands, Africa, and Asia. Further information on systematic areas, techniques and regional foci, as well as general program information can be obtained through the Department of Geography’s website at https://geography.sdsu.edu.

The department of geography offers 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 Master of Arts degree program is designed around one of the systematic areas previously listed in Group A and will generally also include coursework in one of or more technical skills in Group B. The Master of Science program has two concentrations (1) geographic information science, and (2) watershed science.

The Doctor of Philosophy program, 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 the Stephen and Mary Birch Center for Earth Systems Analysis Research (CESAR), the Center for Human Dynamics in the Mobile Age (HDMA), the Center for Information Convergence and Strategy (CICS), the Center for Interdisciplinary Studies of Youth and Space (ISYS), and laboratories for physical geography, cartography, remote sensing and aerial interpretation, and equipment for field studies.

Admission to Master’s and Doctoral Study
Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the required application fee. All applicants must submit admissions materials to SDSU Graduate Admissions and complete the Department of Geography application.

OFFICE: Storm Hall 314
TELEPHONE: 619-594-5437 / FAX: 619-594-4938
Section I. Master's Degree Programs

Admission to the Degree Curriculum

Admission application deadlines for the upcoming fall semester are given at https://geography.sdsu.edu/programs/masters/apply.

Satisfaction of the minimum requirements of San Diego State University and of the Department of Geography does not guarantee admission to the master's program for either the fall or spring semester. Department requirements are normally a minimum grade point average of 3.0 in the last 60 semester units taken as an undergraduate and a satisfactory combined score (minimum 300, old test: 1000) on the verbal and quantitative section of the GRE. The minimum English language score is 550. Applicants taking the Computer Based Test of English must present a score of 80 or above.

Candidates whose preparation is considered insufficient by the master's advising committee will be required to complete specified courses in addition to the minimum 30 units required for the degree.

We will notify applicants of our recommendation on admission to the master's program in geography after application files in Enrollment Services and in the Department of Geography are complete. Enrollment Services will notify you of admission to the Division of Graduate Affairs.

Advancement to Candidacy

All students must satisfy the general requirements for candidacy, as stated in Part Four of this bulletin.

Specific Requirements for the Master of Arts Degree

(Major Code: 22061) (SIMS Code: 112901)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Four 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 master's advising committee. The department requires students to complete all degree requirements within seven years of the semester that they entered the M.A. program.

The requirements for students electing the Master of Arts degree program are as follows:

1. A minimum of 30 units of courses numbered 500 or above as approved by the geography department master's 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.

Specific Requirements for the Master of Science Degree

(Major Code: 22061) (SIMS Code: 112991)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Four 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 master's advising committee. The department requires students to complete all degree requirements within seven years of the semester that they entered the M.S. program.

Concentration in Geographic Information Science (SIMS Code: 112990)

1. A minimum of 30 units of which not more than six may be in disciplines other than geography and at least 15 units from 600- and 700-numbered courses in geography.
2. Geography 700 and 701.
3. A thesis in the area of geographic information science (Geography 799A).
4. Fifteen units from the following list of geographic information science courses: Geography 581 through 585, 589, 591 through 593, 683 through 686L, 780.
5. Additional 500-, 600-, and 700-level coursework determined in consultation with the student's thesis adviser.

Concentration in Watershed Science (SIMS Code: 112995)

1. A minimum of 30 units with no more than nine units from disciplines other than geography and at least 15 units from 600- and 700-numbered courses.
2. Geography 700 and 701.
3. A thesis in the area of watershed science (Geography 799A).
4. Geography 511 and six units of methods courses selected from Geography 581 through 585, 589, 683 through 688L, 780.
5. Advanced coursework (12 units) in watershed science to be determined in consultation with the student’s adviser.

Section II.
Doctoral Program
http://geography.sdsu.edu/programs/doctoral

General Information
(Major Code: 22061) (SIMS Code: 112901)
The cooperating faculties of the Department of Geography at San Diego State University and the University of California, Santa Barbara, 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 previously listed.

Admission to the Degree Curriculum
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.

Application. Application deadlines for the upcoming fall semester are given at https://geography.sdsu.edu/programs/doctoral/apply. Applicants are not admitted for the spring semester. Review procedures begin in January with admission notification beginning mid-March and continuing through mid-April. At least a 3.25 grade point average (on a 4.0 scale) is normally required.

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 one of the 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. 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 Divisions of Graduate Affairs 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. Students admitted into the joint doctoral program are expected to take common core courses. At SDSU, these include: Geography 700 (Seminar in Geographic Research Design) and Geography 701 (Seminar in Geographic Thought). At UCSB, students are required to register in Geography 201 (Colloquium) each quarter. Registering in Geography 200A (Introduction to Geographic Research) is highly recommended. No specified number of lower and upper division writing 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 computational 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, he/she 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 a Ph.D. dissertation has three steps. First, the student must take a written qualifying exam that normally consists of three examinations devoted to: 1) the student’s substantive area, 2) the technical or methodological 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 competencies required to carry out the 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 oral qualifying examination is conducted after 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 satisfaction completion of the oral examination and prescribed coursework, the student must apply 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 has been carried out yielding substantial conclusions of interest which expand the frontiers of knowledge and understanding in the discipline. Results must be reported in a manner demonstrating the ability of the candidate to effectively pursue 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 Divisions of Graduate Affairs.
**Final Examination.** The final examination, organized and administered by the joint doctoral committee, shall consist of a public dissertation defense, before the joint doctoral committee.

**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 institutions.

**Financial Support.** The Department of Geography at SDSU has a number of research and teaching associateships 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 for Master's and Doctoral Degree Programs in Geography (GEOG)**

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

**UPPER DIVISION COURSES**

**GEOG 506. Landscape Ecology (3)**
Prerequisite: Geography 101. Recommended: Geography 370 or 385. Links between landscape patterns and ecological processes at a variety of spatial scales to include causes and measures of landscape patterns, effects of landscape patterns on organisms, landscape models, landscape planning and management.

**GEOG 507. Geography of Natural Vegetation (3)**
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.

**GEOG 509. Regional Climatology (3)**
Prerequisite: Geography 101 or 103. The causes of climatic types as they occur throughout the world. Principles of several climatic classifications.

**GEOG 511. Hydrology and Global Environmental Change (3)**
Prerequisite: Geography 101 or 103. Hydrologic processes and regimes, how these are affected by environmental change and how hydrologic process and regimes affect patterns of environmental change. Processes operating at global, regional, and local scales are examined, including land-use/land-cover change and climate change.

**GEOG 512. World on Fire (3)**
Prerequisite: Geography 101 or 103 or Biology 100 or Environmental Science 100 [or Sustainability 100] or Geological Sciences 100 or 104. Wild-land fire processes, controls, and effect on soils, water resources, and vegetation in contrasting ecosystems. Fire regimes and mitigation strategies. Fire research.

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

**GEOG 570. Environmental Conservation Practice (3)**
Prerequisite: Geography 370. Management of environmental and natural resources. Effective programs and the institutional frameworks in which they occur.

**GEOG 572. Land Use Analysis (3)**
Prerequisite: Geography 370. Theoretical and practical approaches to land use management. Current and relevant techniques and policies at local, state and federal levels, aimed toward providing healthy and environmentally sound communities that provide positive benefits to society and the economy. Field trips may be arranged.

**GEOG 573. Population and the Environment (3)**
Prerequisite: Geography 102. Population distribution, growth, and characteristics as they relate to environmental degradation, both as causes and consequences. Roles of women, sustainable development, carrying capacity, optimum population, and policy initiatives in relationships between population and environment.

**GEOG 574. Water Resources (3)**
Prerequisites: Geography 370 and 375. Occurrence and utilization of water resources and the problems of water resource development. Field trips may be arranged.

**GEOG 575. Geography of Recreational Land Use (3)**
Prerequisite: Geography 101 or 102. Importance of society, environment, and location in the use, management, and quality of recreation areas. Direct observation of practices and policies with field trips to local (San Diego) areas and an optional four-day trip to Yosemite National Park.

**GEOG 576. Advanced Watershed Analysis (3)**
Prerequisite: Geography 101, 103, or 104. Recommended: Geography 375 and 384. Theory and techniques in watershed analysis. Use of GIS and statistical programming for analyses of geomorphology, hydrology, and water quality data.

**GEOG 581. Cartographic Design (3)**
Two lectures and three hours of laboratory. Prerequisite: Geography 381. Computer-assisted map production techniques with emphasis on map design and color use.

**GEOG 583. Internet Mapping and Distributed GIServices (3)**
Two lectures and three hours of laboratory. Prerequisite: Geography 381 or 484. Current development of Internet mapping and cartographic skills for web-based maps (multimedia, animation, and interactive design). Fundamental theories of distributed GIS to support Internet mapping with focus on distributed component technologies, Internet map servers, and web services.

**GEOG 584. Geographic Information Systems Applications (3)**
Two lectures and three hours of laboratory. Prerequisite: Geography 484. Spatial analysis methods in GIS, to include terrain, raster, and network analysis. Feature distributions and patterns. GIS data processing techniques to include spatial interpolation, geocoding, and dynamic segmentation. Designing and executing analytical procedures.

**GEOG 585. Quantitative Methods in Geographic Research (3)**
Prerequisite: Geography 385. Application of statistical techniques to geographic research to include simple regression and correlation, multiple regression, geographically weighted regression, classification, factor analysis, and computer applications.

**GEOG 586. Qualitative Methods in Geographic Research (3)**
Prerequisite: Geography 102. Application of qualitative techniques to geographic research including reflexive survey design and in-depth interviews, non-observational methods, landscape interpretation, textual methods and discourse analysis, feminist criticism, and humanistic and historical materialist perspectives on measurement.

**GEOG 589. GIS-Based Decision Support Methods (3)**
Prerequisite: Geography 484. Integration of Geographic Information Systems (GIS) with discrete and continuous multiple criteria decision making (MCDM) methods. Applications of MCDM in land use planning, site selection, and resource management spatial decision problems.
GEOG 590. Community-Based Geographic Research (3)  
One lecture and four hours of activity or fieldwork.  
Prerequisite: Consent of instructor. Recommended: Statistics 119.  
Local social and/or environmental issues. Research design, data collection and analysis, collaboration with community-based organizations, reflection on research and social responsibility, communication of findings. Maximum credit six units.  
GEOG 591. Remote Sensing of Environment (3)  
Prerequisites: Geography 101, Environmental Science 100 or [Sustainability 100]. Recommended: Physics 180A-180B. Undergraduate students must be concurrently registered in Geography 591 and 591L. Graduate students may take Geography 591L concurrently or after Geography 591.  
Acquiring and interpreting remotely sensed data of environment. Electromagnetic radiation processes, aerial and satellite imaging systems and imagery. Geographic analysis of selected human, terrestrial, and marine processes and resources. (Geography 591 and 591L formerly numbered Geography 587.)  
GEOG 591L. Remote Sensing of Environment Laboratory (1)  
Three hours of laboratory.  
Prerequisites: Geography 101, Environmental Science 100 or [Sustainability 100]. Recommended: Physics 180A-180B. Undergraduate students must be concurrently registered in Geography 591 and 591L. Graduate students may take Geography 591L concurrently or after Geography 591.  
Practical exercises, introductory processing, visual interpretation and mapping of remotely sensed imagery. (Geography 591 and 591L formerly numbered Geography 587.)  
GEOG 592. Intermediate Remote Sensing of Environment (3)  
Prerequisites: Geography 385, 591, 591L. Undergraduate students must be concurrently registered in Geography 592 and 592L. Graduate students may take Geography 592L concurrently or after Geography 592.  
Digital image processing. Thermal infrared and microwave imaging systems and analysis and geographic interpretation principles. Geographic analysis of selected human, terrestrial, oceanographic, and atmospheric processes and resources. (Geography 592 and 592L formerly numbered Geography 588.)  
GEOG 592L. Intermediate Remote Sensing of Environment Laboratory (1)  
Three hours of laboratory.  
Prerequisites: Geography 385, 591, 591L. Undergraduate students must be concurrently registered in Geography 592 and 592L. Graduate students may take Geography 592L concurrently or after Geography 592.  
Digital image processing, visual interpretation, mapping of thermal infrared and microwave imagery. (Geography 592 and 592L formerly numbered Geography 588.)  
GEOG 593. GIS for Business Location Decisions (3)  
Two lectures and three hours of laboratory.  
Prerequisite: Geography 484 or graduate standing. Recommended: Geography 584, 589.  
Geographic Information Systems (GIS) and location analysis methods to include modeling and spatial analysis. Applications of GIS and location analysis in business site selection, market segmentation, retail marketing, and service area analysis.  
GEOG 594. Big Data Science and Analytics Platforms (3)  
Prerequisites: Geography 104, Computer Science 100 or 107; and Geography 385, Sociology 201, Statistics 250, or graduate standing.  
Big data science to include analysis, data collection, filtering, GIS, machine learning, processing, text analysis, and visualization. Computational platforms, skills, and tools for conducting big data analytics with real world case studies and examples.  
GEOG 595. Geographic Internship (3)  
Prerequisites: Six upper division units in geography and consent of instructor.  
Students will be assigned to various government agencies and industry and will work under the joint supervision of agency heads and the course instructor.  
GEOG 596. Advanced Topics in Geography (1-3)  
Prerequisite: Six upper division units in geography. Advanced special topics in geography. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 596, 496, 596 courses applicable to a bachelor's degree. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.  
GEOG 670. Environmental Conservation Theory (3)  
Prerequisites: Geography 484 and Computer Science 108.  
Prerequisites: Graduate standing. Theories and principles involved in natural and environmental resources management.  
GEOG 683. Advanced Geographic Information Systems (3)  
Prerequisites: Geography 484 and Computer Science 108.  
Scripting techniques with Python for automating geoprocessing tasks and developing GIS tools. Use of Bayes' Theorem in spatial modeling.  
GEOG 683L. Geographic Information Systems Laboratory (1-2)  
Prerequisites: Concurrent registration in Geography 683. Three to six hours of laboratory. Geoprocessing Python scripting techniques with applications to spatial modeling and analysis.  
GEOG 688. Advanced Remote Sensing (3)  
Prerequisite: Graduate standing.  
Sensor systems, image interpretation and geographic applications in thermal infrared and microwave remote sensing. Principles of digital image processing.  
GEOG 688L. Advanced Remote Sensing Laboratory (1-2)  
Prerequisite: Graduate standing. Two or four hours of laboratory. Processing and analysis of remotely sensed data. Laboratory training in sensor systems and digital image-processing methods including thermal infrared and microwave data analysis.  
GEOG 696. Advanced Special Topics in Geography (3)  
Prerequisite: Consent of instructor. Advanced special topics in geography. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.  
GEOG 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.  
GEOG 701. Seminar in Development of Geographic Thought (3)  
Prerequisite: Graduate standing. Evolution of concepts concerning the nature, scope, theories, and methodologies of geography.  
GEOG 710. Seminar in Physical Geography (3)  
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.  
GEOG 740. Seminar in Human Geography (3)  
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.  
GEOG 760. Seminar in Behavioral and Social Geography (3)  
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.
Geography

GEOG 770. Seminar in Environmental 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.

GEOG 780. Seminar in Techniques of Spatial Analysis (3)
Prerequisite: Six units of upper division or graduate level courses
in spatial analytic techniques.
Spatial analytic techniques from image processing, remote
sensing, geographic information systems, cartography 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.

GEOG 797. Research (1-3) Cr/NC/RP
Research in one of the fields of geography. Maximum credit six
units applicable to a master’s degree.

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

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

GEOG 799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned
grade symbol of RP.
Registration required in any semester or term following assignment
of RP 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

GEOG 890. Independent Study for Doctoral
Examination (1-9) Cr/NC
Prerequisite: Consent of instructor or graduate adviser.
Tutorial with student’s major professor in preparation for quali-
fying examinations. No unit credit allowed toward advanced degree.
Maximum credit nine units.

GEOG 897. Doctoral Research (1-15) Cr/NC/RP
Prerequisite: Admission to the doctoral program.
Independent investigation in the general field of the dissertation.

GEOG 899. Doctoral Dissertation (1-15) Cr/NC/RP
Prerequisites: Advancement to candidacy and an officially consti-
tuted dissertation committee.
Preparation of a dissertation for the doctoral degree. Enrollment is
required during the term in which the dissertation is approved. No unit
credit allowed toward advanced degree.
Faculty
Allen M. Gontz, Ph.D., Professor of Geological Sciences, Chair of Department
Steven M. Day, Ph.D., Professor of Geological Sciences, Emeritus, The Rollin and Caroline Eckis Chair in Seismology
Eric G. Frost, Ph.D., Professor of Geological Sciences
David L. Kimbrough, Ph.D., Professor of Geological Sciences
Kim Bak Olsen, Ph.D., Professor of Geological Sciences, The Rollin and Caroline Eckis Chair in Seismology
Thomas K. Rockwell, Ph.D., Professor of Geological Sciences
Stephen A. Schellenberg, Ph.D., Professor of Geological Sciences and Associate Dean of the Division of Undergraduate Studies
Shuo Ma, Ph.D., Associate Professor of Geological Sciences (Graduate Adviser)
Kathryn W. Thorbjarnarson, Ph.D., Associate Professor of Geological Sciences, Emeritus
Jillian M. Maloney, Ph.D., Assistant Professor of Geological Sciences
Barry B. Hanan, Ph.D., Resident Isotope Geochemist
Kim Bak Olsen, Ph.D., Professor of Geological Sciences
David L. Kimbrough, Ph.D., Professor of Geological Sciences
Eric G. Frost, Ph.D., Professor of Geological Sciences
Steven M. Day, Ph.D., Professor of Geological Sciences, Emeritus
Kathryn W. Thorbjarnarson, Ph.D., Associate Professor of Geological Sciences
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Barry B. Hanan, Ph.D., Resident Isotope Geochemist
Kim Bak Olsen, Ph.D., Professor of Geological Sciences, The Rollin and Caroline Eckis Chair in Seismology

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. The late Rollin Eckis was 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. The current appointee, Dr. Kim Bak Olsen, conducts research on seismic wave propagation as well as earthquake source description and hazards.

Associateships
Graduate teaching associateships in geological sciences are available to a limited number of qualified students. Application forms and additional information may be secured from the graduate adviser of the department. The program is designed to (1) prepare students for careers in consulting, domestic and multinational firms, and government agencies, (2) provide students with university-level teaching experience and access to community college teaching positions, and (3) provide advanced training in the earth sciences for students planning on entering a Ph.D. program.

Section I.
Master's Degree Programs

General Information
The Department of Geological 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.
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 for M.S. Degree
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 deemed equivalent to the bachelor's degree in geological sciences at San Diego State University. Candidates whose preparation is deemed insufficient by the master's program committee will be required to complete specified courses in addition to the minimum 30 units required for the degree. Undergraduate grade point average should be at least 2.5, with a 2.85 in the last 60 units.
2. Have successfully completed all courses listed as deficiencies.
3. Have a minimum GRE General Test combined verbal and quantitative score of 1000. Students with a verbal score of less than 450 may be required to take a writing course.
4. Have a minimum grade point average of 3.0 in any courses taken as a postbaccalaureate student at San Diego State University.
Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.
All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the Department of Geological Sciences.

Graduate Admissions
The following materials should be submitted as a complete package directly to:
Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416
(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;
SDSU Graduate Bulletin 2017-2018

Section II.
Doctoral Program
http://sci.sdsu.edu/geology/idp/opportunity/

Geophysics

General Information
The cooperating faculties of the Department of Geological Sciences at San Diego State University and the Geophysics Curricular Program of the Scripps Institution of Oceanography Graduate Department at the University of California, San Diego offer a joint doctoral program in geophysics. The complementary specialties of the two groups result in two focus areas: earthquake science and applied geophysics. Each student's program is designed around one of these two areas.

Admission to Doctoral Study
Applicants for admission to the doctoral program in geophysics offered jointly by SDSU and UCSD must meet the requirements as outlined under General Requirements for Doctoral Degrees given in Part Four of this bulletin. Admission into the program requires acceptance by the graduate deans and by the participating departments at UCSD and SDSU. Candidates for admission should have a bachelor's or master's degree in physics, mathematics, earth science, or equivalent training; degrees in engineering science are also accepted. The student's preparation should include:

1. Mathematics through differential and integral calculus.
2. Physics, one year with laboratory (the course should stress the fundamentals of mechanics, electricity, magnetism, optics, and thermodynamics, and should use calculus in its exposition).
3. Chemistry, one year with laboratory.
4. An additional year of physics, chemistry, or mathematics.

Students seeking admission to the joint doctoral program in geophysics should electronically submit the university application available at http://www.calstate.edu/apply. Application deadlines and contact information for the joint doctoral program coordinator are available at http://geology.sdsu.edu.

In addition, all applicants must submit the following admissions materials separately to SDSU Graduate Admissions and to the Department of Geological Sciences, San Diego State University.

Graduate Admissions
The following materials should be submitted as a complete package directly to:
Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes or mailed directly from the issuing institution) from all postsecondary institutions attended (students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation).
(2) GRE scores (http://www.ets.org SDSU institution code 4682);
(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

Department of Geological Sciences
The following materials should be mailed as a complete package to:
Department of Geological Sciences
(Attention: Joint Doctoral Program Coordinator)
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-1020

(1) Three letters of recommendation (in sealed and signed envelopes);
(2) Curriculum vitae or resume;
(3) Applicant's statement of purpose in seeking the Ph.D.

Geological Sciences

Advancement to Candidacy
All students must satisfy the general requirements for advancement to candidacy as stated in Part Four of this bulletin.

Specific Requirements for the Master of Science Degree
(Major Code: 19141) (SIMS Code: 775301)

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 Four of this bulletin, and a graduate program consisting of 30 units of upper division and graduate courses selected from the geological sciences and closely related fields. This program must be approved by the graduate adviser. A minimum of 18 units must be selected from 600- and 700-numbered courses in the Department of Geological Sciences. Graduate students are required to complete Geological Sciences 602, up to six units of Geological Sciences 797 Research, and three units of Geological Sciences 799A Thesis (Plan A) or three units of Geological Sciences 750, Research and Technical Writing (Plan B). Both Plan A and Plan B students are required to pass a final oral examination. With approval of the graduate adviser, students may include 12 units of approved upper division and graduate electives from acceptable courses offered in other related areas. No more than six units of the upper division electives may be Department of Geological Sciences courses; this requirement may be waived at the discretion of the graduate adviser in cases where the student’s thesis committee chair determines more units are appropriate.

Students specializing in Geophysics (SIMS Code: 775346) or Hydrogeology (SIMS Code: 775397) are also required to include 15 units of specialization courses. The geophysics specialization must include at least two of the following courses: Geological Sciences 630, 690, or 691. The hydrogeology specialization must include Geological Sciences 675 and 677. In exceptional cases, this requirement may be waived at the discretion of the graduate adviser, provided a substitute course that enhances a coherent program in a specific professional area is included. The remaining nine units in the specialization must be selected from approved courses in the geological, mathematical, computational, physical, or engineering sciences, in consultation with the graduate adviser. The student is required to pass a final oral examination on the thesis.
A scholastic average of B (3.0 /4.0) or better in upper-division courses, or prior graduate study, is required. Special consideration occasionally can be given to candidates with outstanding records who do not meet all preadmission criteria, but such students should expect to take additional courses to improve their backgrounds. Satisfaction of the minimum requirements at San Diego State University or the Department of Geological Sciences does not guarantee admission to the doctoral program.

**Specific Requirements for Doctoral Program**

(Major Code: 19160) (SIMS Code: 775370)

**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 UCSD and SDSU. Usually, the first year is spent at UCSD; the second and subsequent years at SDSU.

**Advising Committee**

Upon admission to the program, the joint doctoral graduate adviser 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. 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. All students must be proficient in English.

**Course Requirements**

There is no single course of study appropriate to the geophysics doctoral program. Instead, the individual interests of the student will permit, in consultation with the advising committee, a choice of course work in earthquake science or applied geophysics, although certain core courses are usually taken during most of the first year. In the summer or early fall following the first year of study each student will take the departmental examination which is both written and oral. The foundation for this examination is laid by the core courses.

**Departmental Examination**

Doctoral candidates normally will be required to take a departmental examination not later than early in the second year of study. The examination will be oral and written. The examination tests the student's general preparation in geophysics and associated areas (e.g., geology, math, computer programming). The student will be required to demonstrate, in a quantitative and analytical manner, comprehension of required subject material and of the pertinent interactions. Part of the examination is based on the knowledge of a number of assigned journal articles. The oral examination includes a discussion of the student's research progress.

**Qualifying Examinations**

**Joint Doctoral Committee**

After the student has passed the departmental examination, a joint doctoral committee will be appointed. The joint doctoral committee must be formed before the student may proceed to the qualifying examination. The student will select a dissertation supervisor (major professor), who will chair the joint doctoral committee. The joint doctoral committee shall be composed of at least four members of the joint doctoral program faculty, two from the SDSU department and two from the UCSD department. The committee may be augmented as needed by an additional member from outside geophysics at UCSD or a member of the faculty at SDSU from outside of geophysics or, when authorized, another university. 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 Examination**

The joint doctoral committee will determine the student's qualifications for independent research by means of a qualifying examination which will be administered no later than the end of the third year. The qualifying examination is an exploration of the research project, its feasibility, originality and appropriateness. The student must write a concise report describing his or her proposed original research project and give an oral presentation to the joint doctoral committee covering the planned work and any progress to date. The student's joint doctoral committee will conduct the oral qualifying examination to ensure that the student possesses the full knowledge and competence required to carry out her or his dissertation research proposal. Passing the oral presentation and defense of this proposal signifies that the doctoral dissertation proposal is approved.

Upon satisfactory completion of the oral qualifying examination and prescribed coursework, the student must apply to the graduate dean at UCSD for advancement to candidacy. Upon payment of the candidacy fee to UCSD, and after approval by the graduate deans of both campuses, students will be notified of their advancement to candidacy by the UCSD graduate dean.

**Dissertation**

Following the successful completion of all prescribed coursework and qualifying examination, 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 with the public invited.

**Award of the Degree**

The Doctor of Philosophy degree in geophysics 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 institutions.

**Financial Support**

The Department of Geological Sciences at SDSU has teaching assistantships and fellowships available on a competitive basis and research assistantships and internships are available from research grants and contracts or through industry contacts. All students applying for admission to the joint doctoral program will be considered for financial support.

**Faculty**

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

**San Diego State University:**
Committee Members: Day, Ma, Olsen, Rockwell

**University of California, San Diego:**
Committee Members: Agnew, Bock, Constable, Dorman, Fialko, Harding, Minster, Sandwell, Shearer, Vernon
Courses Acceptable for Master's and Doctoral Degree Programs in Geological Sciences (GEOL)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

GEOL 505. Imaging and GIS in Disaster Response (3)
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 200 or enrollment in homeland security program.
Imaging and Geographic Information Systems applications in disaster management.

GEOL 508. Advanced Field Geology (4 or 6)
One lecture and three hours of laboratory plus 28 days in the field. For the option with six units: two additional weeks of field or laboratory work.
Prerequisite: Geological Sciences 306.
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. Students must demonstrate the physical ability to adequately and safely perform fieldwork under varying weather conditions; in steep, uneven or rocky terrain; for long periods of time.

GEOL 514. Process Geomorphology (3)
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 306.
Processes shaping and affecting the earth's surface, and application of resultant land forms in interpretation of geologic structure, stratigraphy, and neotectonics.

GEOL 520. Economic Geology (3)
Prerequisite: Geological Sciences 306.
Origin and distribution of mineral deposits, economic considerations involved in their recovery, and assessment of available reserves.

GEOL 521. Petroleum Geology (3)
Prerequisite: Geological Sciences 336.
History of petroleum exploration; statistics of energy use; principles of well logging; theories of petroleum generation, migration, and accumulation; exploration and production techniques; case studies of important oil fields.

GEOL 530. Geochemistry (3)
Two lectures and three hours of laboratory.
Prerequisites: Geological Sciences 324; Credit or concurrent registration in Chemistry 201; Mathematics 124 or 150.
Fundamental principles of low- and high-temperature geochemistry. Origin of the elements; formation of the solar system; differentiation of the earth; weathering at the earth's surface; chemistry of natural waters. Laboratory methods applied to geological problems.

GEOL 537. Geobiology (3)
Two lectures and three hours of laboratory.
Prerequisites: Geological Sciences 205 and either Biology 100-100L, 101-101L or 203-203L, and Geological Sciences 336.
Principles of paleontology, including ecology and evolution. Tools of paleontology, including biomechanics, shape analysis, phylogeny, population analysis, study of biogeographic, temporal, and environmental distribution. Focus on using biology to solve geologic problems and vice versa.

GEOL 538. Notable Historic Earthquakes (3)
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 300.
Earthquake magnitude, fault source physics and rupture mechanisms, earthquake location and ground motion estimation, geotechnical aspects, earthquake triggering and geodesy.

GEOL 550. Engineering Geology (3)
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 306.
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.

GEOL 551. Hydrogeology (3)
Two lectures and three hours of laboratory.
Prerequisites: Geological Sciences 306 and Mathematics 124 or 150.
Theory of ground water flow. Exploration for and development of the ground water resource. Aquifer tests, water quality, and water resource management. Occurrence of water in alluvial, sedimentary, volcanic, plutonic, and metamorphic terrains.

GEOL 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.

GEOL 580. Seismic Interpretation and 3D Visualization (3)
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 306.
Computer-based seismic interpretation, mapping, and modeling in both 2D and 3D. Overview of basic processing. Emphasis on industrial applications, both petroleum and shallow geotechnical.

GEOL 587. Volcanology (3)
Prerequisite: Geological Sciences 324.
Magma and magma chamber properties. Eruptive mechanisms, volcanic types, and a variety of volcanic phenomena associated with Hawaiian, Strombolian, Plinian, Vulcanian, and hydrovolcanic eruptions. Volcanic phenomena applied to classic and historic eruptions. (Formerly numbered Geological Sciences 687.)

GEOL 596. Advanced Topics in Geology (1-4)
Prerequisite: Consent of instructor.
Advanced special topics in the geological sciences. 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

GRADUATE COURSES

GEOL 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. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

GEOL 602. Research Forum (3)
Prerequisite: Consent of department.
Identification of an original research project and collection of preliminary data. Oral presentation of a written proposal.

GEOL 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.

GEOL 633. Quaternary Geology (3)
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 514.
Quaternary climate, geochronometric dating and soil stratigraphy.

GEOL 635. Petrology of Terrigenous Rocks (3)
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 336.
Thin-section and hand-specimen description and classification of sandstones, conglomerates, and mudrocks. Emphasis on mineralogy, provenance, diageneric processes, and paleogeographic reconstructions.
GEOL 638. Advanced Notable Historic Earthquakes (3)
Two lectures and three hours of laboratory.
Prerequisite: Geological Sciences 300.
Earthquake magnitude, fault source physics and rupture mechanisms, earthquake location and ground motion prediction, geotechnical aspects, earthquake triggering and geodesy. Term project on a selected earthquake including computer-based analysis of source, mechanism, and location. Not open to students with credit in Geological Sciences 538.

GEOL 642. Neotectonics (3)
Two lectures and three hours of laboratory.
Prerequisites: Geological Sciences 306 and 514.
Observation, interpretation and significance of late Quaternary crustal deformation.

GEOL 645. Advanced Structural Geology (3)
Prerequisite: Geological Sciences 306.
Topics in advanced structural geology in the light of petrographic, geophysical, and experimental data, combined with classic field observations.

GEOL 675. Groundwater Geochemistry (3)
Prerequisites: Chemistry 201 and Mathematics 150.
Processes affecting inorganic solutes in groundwater. Applications to groundwater geochemical evolution, weathering processes, and inorganic contaminant transport.

GEOL 677. Environmental Fate of Organic Contaminants (3)
Two lectures and three hours of laboratory.
Prerequisites: Geological Sciences 551 and 530, 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.

GEOL 690. Earthquake Physics I (3)
Prerequisite: Geological Sciences 560. Recommended: Mathematics 342B.
Structure and theology of fault zones as inferred from geological and geophysical observations. Stress state and frictional behavior of faults, stress interaction models, thermal, and hydrological properties of fault zones. Mechanics and energy budget of earthquakes.

GEOL 691. Earthquake Physics II (3)
Prerequisites: Geological Sciences 560 and 690. Recommended: Mathematics 342B.
Theoretical and numerical models of earthquake rupture and wave propagation, with applications to ground motion prediction and seismic hazard estimation. Collective behavior of fault networks, seismicity models, earthquake predictability; application to earthquake forecast models.

GEOL 750. Research and Technical Writing (3) Cr/NC
Prerequisites: Geological Sciences 602 and advancement to candidacy.
Research and technical report writing in geological sciences for students in Plan B.

GEOL 797. Research (1-3) Cr/NC/RP
Prerequisite: Consent of the department.
Supervised research in an area of geological sciences. Maximum credit six units applicable to a master’s or Ph.D. degree.

GEOL 799A. Thesis (3) Cr/NC/RP
Prerequisites: Geological Sciences 602, an officially appointed thesis committee, and advancement to candidacy.
Preparation of a thesis for the master’s degree.

GEOL 799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP 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.

GEOL 799C. Comprehensive Examination Extension (0) Cr/NC
Prerequisite: Completion or concurrent enrollment in degree program courses.
Registration required of students whose only requirement is completion of the comprehensive examination for the master’s degree. Registration in 799C limited to two semesters.

DOCTORAL COURSES

GEOL 897. Doctoral Research (1-15) Cr/NC/RP
Prerequisite: Admission to doctoral program.
Independent investigation in general field of the dissertation.

GEOL 898. Doctoral Special Study (1-8) Cr/NC/RP
Prerequisite: Admission to doctoral program.
Individual study in field of specialization. Maximum credit eight units applicable to doctoral degree.

GEOL 899. Doctoral Dissertation (1-15) Cr/NC/RP
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.
German
In the Department of European Studies
In the College of Arts and Letters

OFFICE: Storm Hall 224A
TELEPHONE: 619-594-6313 / FAX: 619-594-8006
E-MAIL: german.coord@sdsu.edu
http://german.sdsu.edu

Chair of Department: Anne Donadey, Ph.D.

Faculty
Kristin Rebien, Ph.D., Associate Professor of German
Mary M. Wauchope, Ph.D., Associate Professor of German, Emeritus

General Information
The Department of European Studies 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.

Courses (GERMN)
Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES
All upper division courses in German are taught in German unless otherwise stated.

GERMN 520. Modern German Literature (3)
Prerequisites: German 300 and 301.
Major authors and genres since Enlightenment.

GERMN 575. Seminar in German Studies (3)
Prerequisite: Two upper division German courses.
Directed research on topics in German studies. See Class Schedule for specific content. May be repeated with new title and content. Maximum credit six units.

GERMN 596. Topics in German Studies (3)
Prerequisites: German 300 and 301. Proof of completion of prerequisites required: 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

GRADUATE COURSES

GERMN 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

GERMN 798. Special Study (1-3) Cr/NC/RP
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.
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. Students whose preparation is deemed insufficient by the gerontology admissions committee may be admitted as conditionally classified and will be required to complete specific courses in addition to the minimum 36 units required for the degree. Students from other disciplines are encouraged to apply. Applicants should have a minimum undergraduate grade point average of 3.0 (on a 4.0 scale) during the last 60 semester units of undergraduate college/university coursework. The grade point average must be in concurrence with the basic requirements for the Master of Science degree (Major Code: 21043) (SIMS Code: 551904).

Core Curriculum Requirements. A minimum of 30 units is required in the following core courses:

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<th>Course</th>
<th>Units</th>
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<td>GERO 799A</td>
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NOTE:
- Students who attended SDSU need only submit transcripts for work completed since last attendance.
- Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.
- GRE scores (http://www.ets.org SDSU institution code 4682);
- English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

General Information

The Master of Science degree in gerontology is supported by interdisciplinary faculty from several departments. The program is administered by the School of Social Work. The primary goal of the Gerontology Graduate Program is to offer high-quality interdisciplinary education and training that focus on the core areas of gerontology such as theories of aging, aging policy, long-term care, research methodology, design, development, administration, and evaluation of programs for the aged. The program is committed to preparing students to enter positions in administration and management in a variety of organizations serving older adults. This goal will be accomplished by offering coursework and field experience aimed at providing the necessary knowledge and skills to encourage/promote gerontology competencies and evidence-based administration and management as related to older adults.

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. Students whose preparation is deemed insufficient by the gerontology admissions committee may be admitted as conditionally classified and will be required to complete specific courses in addition to the minimum 36 units required for the degree. Students from other disciplines are encouraged to apply. Applicants should have a minimum undergraduate grade point average of 3.0 (on a 4.0 scale) during the last 60 semester units of undergraduate college/university coursework. The grade point average must be in concurrence with the basic requirements for the Master of Science degree (Major Code: 21043) (SIMS Code: 551904).

Core Curriculum Requirements. A minimum of 30 units is required in the following core courses:

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Specific Requirements for the Master of Science Degree

(Major Code: 21043) (SIMS Code: 551904)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the Master of Science degree as described in Part Four of this bulletin, the student must complete a minimum of 36 units. The program consists of 30 units of required core courses and six units of electives.

Core Curriculum Requirements. A minimum of 30 units is required in the following core courses:

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All students must submit admissions materials separately to SDSU Graduate Admissions and to the School of Social Work. The following materials should be submitted by March 1 for the fall semester to:

School of Social Work
(Attention: Gerontology Graduate Adviser)
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-4452

(1) Three letters of reference in support of your application from academic references;
(2) Personal statement outlining your goals, background, interests, and abilities;
(3) Curriculum vitae or resume.

Faculty

Melinda M. Hohman, Ph.D., Professor of Social Work, Director of School
Jong Won Min, Ph.D., Professor of Social Work, Associate Director of School
Mario D. Garrett, Ph.D., Professor of Social Work
Anita S. Harbert, Ph.D., Professor of Social Work, Emeritus
Eunjeong Ko, Ph.D., Associate Professor of Social Work
Yawen Li, Ph.D., Assistant Professor of Social Work

Assistantships

Graduate teaching and research assistantships in gerontology are available to a limited number of qualified students. Information regarding the availability of funds and the process for application may be obtained from the School of Social Work.

General Information

The Master of Science degree in gerontology is supported by interdisciplinary faculty from several departments. The program is administered by the School of Social Work. The primary goal of the Gerontology Graduate Program is to offer high-quality interdisciplinary education and training that focus on the core areas of gerontology such as theories of aging, aging policy, long-term care, research methodology, design, development, administration, and evaluation of programs for the aged. The program is committed to preparing students to enter positions in administration and management in a variety of organizations serving older adults. This goal will be accomplished by offering coursework and field experience aimed at providing the necessary knowledge and skills to encourage/promote gerontology competencies and evidence-based administration and management as related to older adults.

Admission to Graduate Study

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Electives. A minimum of six units of electives is required. Selected with the approval of the student's adviser, electives must include courses in gerontology or departments related to gerontology. Any gerontology graduate course or 500- to 700-level courses not taken for credit in the core curriculum qualify as electives. The breadth of courses available to supplement the core of required courses will be extensive, and draw on resources from across the university.

Plan A: Students who complete Plan A, Thesis option for the M.S. degree in gerontology must include Gerontology 799A (Thesis) in the 30-unit program, complete Gerontology 797 as one of the electives, and pass a final oral examination on the thesis.

Plan B: Students in Plan B must include Gerontology 700B to fulfill core requirements and pass a comprehensive written examination.

## Courses Acceptable for Master's Degree Program in Gerontology (GERO)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

### UPPER DIVISION COURSES

**GERO 520. Analysis of Programs for the Aging (3)**

Prerequisite: One upper division course in gerontology. Major programs in aging that support daily functioning of elderly. Effectiveness of programs in serving today's elderly with attention to ethnic and cross-cultural variations.

**GERO 596. Advanced Special Topics in Gerontology (1-4)**

Advanced selected topics in gerontology. 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

### GRADUATE COURSES

**GERO 601. Theory and Application in Gerontology and Aging (3)**

Prerequisite: Consent of instructor. Concepts and theory in gerontology, theory construction, application of theory to research. Theoretical models and special topics.

**GERO 605. Long-Term Care (3)**

Prerequisite: Consent of instructor. Issues and problems in a changing long-term care delivery system for older people in a multi-cultural society. Emphasis on frailty of the elderly, demand for affordable long-term care, and analysis of federal and state policies shaping the industry.

**GERO 690. Seminar in Research Methods for Social Work and Gerontology (3)**

(Same course as Social Work 690)

Research development, design, and methodology. Application to social work and gerontology in testing theories, advancing practice knowledge, and decision-making.

**GERO 696. Contemporary Topics in Gerontology and Geriatrics Seminar (3)**

Prerequisite: A graduate level course in gerontology. Areas of gerontology and geriatrics that make an immediate impact on the quality of life and lifestyles of the elderly. To include diverse life situations of older people. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

**GERO 700A-700B. Practicum (3-3) Cr/NC**

Prerequisite: Gerontology 601 Supervised field placement in public or private setting. Application of gerontological theory, policy, objectives, principles, and skills in service to individuals, families, groups, organizations, and communities.

**GERO 740. Advanced Seminar in Administration and Community Development in Social Work and Gerontology (3)**

(Same course as Social Work 740)

Prerequisites: Social Work 632 and concurrent registration in Gerontology 700A or Social Work 755. Human services program design, strategic planning, marketing, organizational performance management, human resource management, and development of grant proposals.

**GERO 797. Research (1-3) Cr/NC/RP**

Preparation of a thesis for the master's degree.

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

Prerequisite: Consent of adviser. Individual study. Maximum credit six units applicable to a master's degree.

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

Prerequisites: An officially appointed thesis committee and advancement to candidacy. Preparation of a thesis for the master's degree.

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

Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of RP. Registration required in any semester or term following assignment of RP 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.

**GERO 799C. Comprehensive Examination Extension (0) Cr/NC**

Prerequisite: Completion or concurrent enrollment in degree program courses. Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.
History
In the College of Arts and Letters

OFFICE: Arts and Letters 588
TELEPHONE: 619-594-5262 / FAX: 619-594-2210
http://history.sdsu.edu/

Faculty
Andrew Wiese, Ph.D., Professor of History, Chair of Department
Edward J. Beasley, Ph.D., Professor of History
Edward J. Blum, Ph.D., Professor of History
Elizabeth A. Cobbs, Ph.D., Professor of History, Emeritus
The Dwight E. Stanford Chair in American Foreign Relations
Sarah S. Elkind, Ph.D., Professor of History
Joanne M. Ferraro, Ph.D., Albert W. Johnson Distinguished Professor of History, Emeritus
Eve Kornfeld, Ph.D., Professor of History
Mathew S. Kuefler, Ph.D., Professor of History
Stephen A. Colston, Ph.D., Associate Professor of History, Emeritus
Paula S. De Vos, Ph.D., Associate Professor of History
(Graduate Adviser)
Kathryn J. Edgerton-Tarpley, Ph.D., Associate Professor of History
Thomas P. Passananti, Ph.D., Associate Professor of History
Walter D. Penrose, Ph.D., Associate Professor of History
Elizabeth Ann Pollard, Ph.D., Associate Professor of History
[Senate Distinguished Professor]
John C. Putman, Ph.D., Associate Professor of History
Chiou-Ling Yeh, Ph.D., Associate Professor of History
Pablo E. Ben, Ph.D., Assistant Professor of History
Annika E. Frieberg, Ph.D., Assistant Professor of History
Ranin Kazemi, Ph.D., Assistant Professor of History

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 College (now SDSU), established The Dwight E. Stanford Chair in American Foreign Relations. From 1998 - 2015, the chair was held by Professor Emeritus, Dr. Elizabeth A. Cobbs, a distinguished scholar-teacher who is an expert on economic and political relations between the United States and the Third World, and on the history of the Cold War.

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 was held by Dr. Lawrence Baron, Professor Emeritus, and a distinguished scholar of European intellectual history and Holocaust studies, from 1988 until 2012.

Master of Arts Degree in History

General Information
The Department of History 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, (2) those who anticipate further study leading to a doctoral degree in history or related fields, and (3) those who plan to teach history at the secondary or community college levels.

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 to demonstrate sufficient preparation for the program. The minimum grade point average required for application to the M.A. program in history is 2.85 in an acceptable earned baccalaureate degree or in the last 60 semester (90 quarter) units attempted and 3.0 in the major (not necessarily history), plus a satisfactory score on the GRE General Test. Applicants holding an acceptable post-baccalaureate degree earned at an institution accredited by a regional accrediting association also meet minimum qualifications.

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.

All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the Department of History. See http://history.sdsu.edu/graduate_program/how_to_apply.htm for information on application instructions and materials.

Advancement to Candidacy
All students must satisfy the general requirements for advancement to candidacy, as stated in Part Four of this bulletin, as well as the specific requirements of the department. All students should consult the graduate adviser.

Specific Requirements for the Master of Arts Degree in History
(Major Code: 22051) (SIMS Code: 113301)
In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Four 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 for the master's degree programs, at least 21 units of which must be in 600- and 700-numbered courses. Students may elect either Plan A, requiring a thesis, or Plan B, requiring a comprehensive written examination in two fields of history chosen in consultation with the graduate adviser. For Plan B, faculty meet with the student for a one-hour oral assessment one week following the examination if further consultation is necessary.

Required courses are History 601, 665; nine units selected from History 620, 630, 640, 650, or 680; 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 799 (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 a relevant foreign language. Course selection and programs must be approved by the graduate adviser prior to the student's registration.
Courses Acceptable for Master's Degree Program in History (HIST)
Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

NOTE: Courses for Field (A) Thematic, Comparative, and Interdisciplinary History; or Field (B) The Ancient Through Early Modern World; or Field (C) The Modern World, are identified in the course title as (A), (B), or (C).

HIST 500. Topics in Ancient History (A) (3)
Prerequisite: Upper division or graduate standing.
Variable topics in ancient history throughout the world may include: Women in Greek and Roman societies, magic in the Greco-Roman World, Silk Roads, and pre-contact Mesoamerica. See Class Schedule for specific topic. May be repeated with new content. Maximum credit six units.

HIST 501. History of Ancient Near Eastern Civilizations (B) (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.

HIST 502. Ancient Greece (B) (3)
Greek history from prehistoric period through Age of Alexander the Great. Emphasis on political, social, cultural and institutional developments, and historiography. Secondary attention to military, economic, and religious topics.

HIST 503. Ancient Rome (B) (3)
Roman history from origins of Rome to fall of the Empire. Emphasis on political, social, cultural and institutional developments, and historiography. Secondary attention to military, economic, and religious topics.

HIST 504. The Dark Ages (B) (3)
(Same course as Humanities 504)
Europe and the Mediterranean, sixth to eleventh centuries C.E. through various approaches: political, economic, social, and cultural. Topics include the barbarians and Vikings, the Byzantine, Arab, and Holy Roman Empires, the Norman Conquest, Charlemagne, Beowulf, feudalism, and serfdom.

HIST 505. The Later Middle Ages (B) (3)
(Same course as Humanities 506)
Europe and the Mediterranean 1100-1450 C.E. through various approaches: political, economic, social, and cultural. Development of kingdoms of western Europe and relationship to Byzantine empire and other states.

HIST 506. The Renaissance (B) (3)
(Same course as Humanities 507)
Intellectual, artistic, social, and economic transformation in Europe from fourteenth to seventeenth centuries.

HIST 507. The Reformation (B) (3)
(Same course as Religious Studies 507)
Continental Europe, 1500-1648. Split of Christendom; political and intellectual dissent; social fabric of family life; relationship between gender, class, and power; cultural stratification of European society.

HIST 508. The Fall of the Roman Empire (B) (3)
Prerequisite: Upper division or graduate standing.
History of Mediterranean region between third and sixth centuries C.E. Changes in society, politics, economics, the military, gender, sexuality, religion, literature, art, archaeology, and law. Competing perceptions of the period as one of “fall” versus one of “transformation.”

HIST 509. British Century: Waterloo to World War I (C) (3)
Prerequisite: Upper division or graduate standing.
History of England, 1815-1914, to include industrial supremacy; struggles over urban problems, reform, democratization, labor organization, national self-image; interplay of liberalism and collectivism; sources of social stability and instability; women's rights; jingoism; coming of World War I.

HIST 512B. The Age of Dictators and Contemporary Europe (C) (3)
Europe in the age of dictatorship, world war, decline, and recovery.

HIST 514. History of Science: From Revolution to Evolution (A) (3)
Prerequisite: Upper division or graduate standing.
Development of early modern European science. Origins of Western concept of “science,” Greco-Roman and Arabic roots of science, impact of Renaissance humanism and voyages of exploration on Scientific Revolution, and imperial context of evolutionary theories and scientific racism.

HIST 516. Imperialism and the Colonial Experience (A) (3)
Prerequisite: Upper division or graduate standing.
Imperialism and colonialism as these transformed both colonizing and colonized peoples, e.g., modernization, racism, Orientalism, multi-ethnic, Great Power competition, anti-colonial resistance, and nationalism.

HIST 527. The Holocaust in Feature Films (A) (3)
Two lectures and two hours of activity.
Prerequisite: Upper division or graduate standing.
Depiction of the Nazi policy of destroying European Jewry and its impact on the perpetrators, bystanders, victims, and the post-war world in feature films.

HIST 528. Social History of Early Modern Europe (B) (3)
Prerequisite: Upper division or graduate standing.
Major civilizations of Near East from the origin of civilization to Roman Conquest, including Egyptians, Babylonians, Hebrews, and Persians. Social, political, and religious problems.

HIST 532. Topics in Early American History (B) (3)
Prerequisites: Upper division or graduate standing and three units in history at the college level.
Variable topics in history of colonial America and the early republic. Possible topics include: Women and the Family; Race, Class and Labor; American Revolution; Religion and Politics; Immigrants' Experiences. See Class Schedule for topic. May be repeated with new content. Maximum credit six units.

HIST 533. Antebellum America (C) (3)
Prerequisite: Upper division or graduate standing.
Westward expansion and movement, market revolution, democratic politics, revivalism, slavery, and women's rights.

HIST 534. Civil War and Reconstruction (C) (3)
Prerequisite: Upper division or graduate standing.
Civil War and Reconstruction, emphasizing political affairs and role of Abraham Lincoln.

HIST 535. The Age of Roosevelt (C) (3)
The United States in Depression, War, and Cold War.

HIST 536. The United States Since World War II (C) (3)
Major foreign and domestic issues confronting the United States, and the government policies and popular movements generated in response.

HIST 537. Star Trek, Culture, and History (C) (3)
Prerequisite: Upper division or graduate standing.
Explores relationship between Star Trek's several television series, movies, novels, and the larger historical and cultural context of post-World War II America. Themes include race, gender, sexuality, foreign policy, terrorism, religion, and politics.

HIST 538. American Religious History (A) (3)
Prerequisite: Upper division or graduate standing.
Religious ideas, leaders, movements, institutions, and ideologies throughout United States history. Religious change over time and connections between religion and colonialism, nationalism, politics, race, class, gender, sexuality, war, diversity, justice, and material culture.

HIST 539. Topics in the History of the American West (C) (3)
Prerequisites: Upper division or graduate standing and three units of history at the college level.
Selected topics in history of American West such as Westward movement; Southwest borderlands; gender and the frontier; new western history. May be repeated with new content. Maximum credit six units.
HIST 540. Environmental History of the United States (C) (3)  
(Offered only at IVC)  
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.

HIST 544A. Early American Foreign Relations (C) (3)  
Development of American foreign relations from Colonial Period to the Spanish-American-Filipino War.

HIST 544B. Modern American Foreign Relations (C) (3)  
Development of American foreign relations since 1900.

HIST 545. Constitutional History of the United States (C) (3)  
Development of American constitutional ideals and institutions from colonial period to the present. Examines historical context of significant legal issues and constitutional cases.

HIST 548. Race and Ethnicity in United States History (A) (3)  
(Same course as Chicana and Chicano Studies 548)  
Prerequisite: Upper division or graduate standing.
Race and ethnicity in America from colonial period through twentieth century to include historical construction of identity; colonization, slavery, state formation; labor, immigration, politics of whiteness; applicability of black/white binary of a multiethnic society.

HIST 550. Colonial Mexico (B) (3)  
Social history of Mexico from pre-contact through early national period using primary and secondary sources. Processes of social and cultural negotiation involving gender, religion, environment, medicine, and urban experience.

HIST 551. Modern Mexico (C) (3)  
Social history of Mexico since early national period using primary and secondary sources. Processes of social and cultural negotiation involving gender, religion, environment, medicine, and urban experience.

HIST 557. Dictatorships and Human Rights in Latin America (C) (3)  
Prerequisite: Upper division or graduate standing.
Cold War tensions; United States-Latin American relations; Cuban Revolution; rise of dictatorial rule in Argentina, Brazil, Chile, Guatemala; transition to democracy since the 1980s.

HIST 558. Latin America in World Affairs (C) (3)  
History of Latin America’s political and economic relations with Europe, the Soviet Union, the United States, and the Third World.

HIST 566. Ancient and Imperial China (B) (3)  
Prerequisite: Upper division or graduate standing.
Chinese history before 1600 CE; Confucianism, Daoism, Legalism; emperors and evolution of Chinese state; gender and sexuality; Buddhism and daily life along Silk Route; Song technological and commercial revolution; Mongol invasions; Ming voyages; China’s role in pre-modern world history.

HIST 567. China in Revolution (C) (3)  
China’s history during the tumultuous nineteenth and twentieth centuries. China’s forced encounter with Western imperialism, rural, and urban social movements. Impact of Mao’s Revolution on everyday life in China, successes, limitations of China’s recent reform policies.

HIST 570. Modern Japan: From Samurai to Sony (C) (3)  
Prerequisite: Upper division or graduate standing.
Japanese history from 1600 to present. Late-samurai period; nineteenth century industrialization and imperialism; Japan in World War II; Nanjing, Pearl Harbor, Hiroshima; foundations of postwar “economic miracle,” gender relations, anime, and identity in contemporary Japan; Japan’s role in twenty-first century world.

HIST 574. Arab-Israeli Relations, Past and Present (C) (3)  
Arab-Israeli conflict and diplomacy over Palestine from perspectives of Zionism, Arab nationalism, and Great Power relations from nineteenth century to present.

HIST 580. Topics in the History of War and Violence (A) (3)  
Prerequisite: Upper division or graduate standing.
History of war and violence may include: Violence in Africa, modern genocide, trauma and modern East Asia, social suffering in historical perspective. See Class Schedule for specific topic. May be repeated with new content. Maximum credit six units.

HIST 581. Topics in Urban History (A) (3)  
Prerequisite: Upper division or graduate standing.
Variable topics in urban history may include: The city in United States history, Chinatowns, suburbs and suburbanization, urban politics. See Class Schedule for specific topic. May be repeated with new content. Maximum credit six units.

HIST 582. Topics in Social and Cultural History (A) (3)  
Prerequisite: Upper division or graduate standing.
Variable topics in social and cultural history may include: Ritual in early modern Europe, radicals ad revolutionaries, intellectuals and society, families in former times, and American popular culture. See Class Schedule for specific topic. May be repeated with new content. Maximum credit six units.

HIST 583. Topics in History of Gender and Sexuality (A) (3)  
Prerequisite: Upper division or graduate standing.
Variable topics in history of gender and sexuality may include: Gay and Lesbian history, Asian American gender and sexuality, genders in Latin America. See Class Schedule for specific topic. May be repeated with new content. Maximum credit six units.

HIST 584. Topics in Environmental History (A) (3)  
Prerequisite: Upper division or graduate standing.
Variable topics in environmental history may include: Press, politics, environment, world environmental history, water and society. See Class Schedule for specific topic. May be repeated with new content. Maximum credit six units.

HIST 585. History of the Sixties (C) (3)  
Prerequisite: Upper division or graduate standing.
Variable topics in the history of the 1960s may include: America in the 1960s, politica in the 1960s, politics and protests in 1960s, Europe in the 1960s. See Class Schedule for specific topic. May be repeated with new content. Maximum credit six units.

HIST 586. Topics in World History (A) (3)  
Prerequisite: Upper division or graduate standing.
Major historical problems, themes, or topics from global, chronological, and geographical perspectives of world history to include frontiers, food and famine, violence and warfare, science, religion and magic, the Atlantic world, medieval era. See Class Schedule for specific topic. May be repeated with new content. Maximum credit six units. (Formerly numbered History 470.)

HIST 596. Selected Studies in History (A) (B) (C) (1–4)  
Variable topics in various fields of history, such as biography, war, science, technology, urbanization, minority groups, immigration, and capitalism. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor’s degree. Maximum credit six units of 596 applicable to a bachelor’s degree. Credit for 596 and 696 applicable to a master’s degree with approval of the graduate adviser.

GRADUATE COURSES

NOTE: 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.

HIST 601. Seminar in Historical Methods (3)  
Historical methodolgies, historiography, and critical analysis.

HIST 620. Directed Readings in European History (3)  
Prerequisite: Consent of instructor.
Selected readings in historical literature and primary sources 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.

HIST 630. Directed Readings in United States History (3)  
Prerequisite: Consent of instructor.
Selected readings in historical literature and primary sources 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.

HIST 640. Directed Readings in Latin American History (3)  
Prerequisite: Consent of instructor.
Selected readings in historical literature and primary sources 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.
### HIST 650. Directed Readings in Asian History (3)
Prerequisite: Consent of instructor.
Selected readings in historical literature and primary sources 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.

### HIST 665. Seminar in History (3)
Prerequisites: History 601; six units selected from History 620, 630, 640, 650, or 680; three units of which may be taken concurrently; six additional units in history appropriate to student's program; consent of instructor.
Directed research on topics selected from a designated area of history. Maximum credit six units applicable to a master's degree.

### HIST 680. Directed Reading in Selected Topics (3)
Prerequisite: Consent of instructor.
Selected readings in comparative, interdisciplinary, and topical history. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

### HIST 696. Special Topics in History (1-3)
Prerequisite: Consent of instructor.
Intensive study in specific areas of history. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree.

### HIST 795. Area Studies in History (3) Cr/NC
Prerequisite: Advancement to candidacy.
Preparation for the comprehensive examinations in two fields of history for those students taking the M.A. under Plan B. Maximum credit three units applicable to a master's degree.

### HIST 797. Research (3) Cr/NC/RP
Prerequisites: Advancement to candidacy and written approval of the History Department graduate adviser.
Independent research in a specialized subject in history.

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

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

### HIST 799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP 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.

### HIST 799C. Comprehensive Examination Extension (0) Cr/NC
Prerequisite: Completion or concurrent enrollment in degree program courses.
Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.
Homeland Security
In the College of Sciences

OFFICE: Chemical Sciences Laboratory 120
TELEPHONE: 619-594-5960
http://homelandsecurity.sdsu.edu

Associated Faculty for Homeland Security
Eric G. Frost, Ph.D., Professor of Geological Sciences, Director of Homeland Security Program
Lance W. Larson, Ph.D., Assistant Director of Homeland Security Program
Cathie J. Atkins, Ph.D., Professor of Psychology and Associate Dean for Academic and Faculty Affairs of the College of Sciences
Stephanie Kay Brodine, M.D., Professor of Public Health, Division Head of Epidemiology and Biostatistics
Murray E. Jennex, Ph.D., Professor of Management Information Systems
David L. Kimbrough, Ph.D., Professor of Geographical Sciences
Mary Ann Lyman-Hager, Ph.D., Professor of French
Stanley R. Maloy, Ph.D., Professor of Biology and Dean of the College of Sciences
Khaled Mohammed, Ph.D., Professor of Religious Studies
Cezar M. Ornatowski, Ph.D., Professor of Rhetoric and Writing Studies
Patrick J. Papin, Ph.D., Professor of Physics, Emeritus
Robert S. Pozos, Ph.D., Professor of Biology
William G. Tong, Ph.D., Albert W. Johnson Distinguished Professor of Chemistry and Biochemistry
Enrico A. Marcelli, Ph.D., Associate Professor of Sociology
Amy S. Schmitz Weiss, Associate Professor of Journalism and Media Studies
Kathleen D. Sweetser, Ph.D., APR+M, Associate Professor of Journalism and Media Studies
Aaron C. Elkins, Ph.D., Assistant Professor of Management Information Systems

General Information
The homeland security program emphasizes international and collaborative approaches in the educational process and study abroad is required for all students in the program. Semester, short-term (one to two weeks), and summer study abroad opportunities are provided by the college and university in countries depending on the interests of students. Topics include art and antiquities smuggling and fraud, collaboration, communications, counter human trafficking, law enforcement, locations of major disasters, nation building, opportunities to assist other countries in their efforts with disaster response, security diplomacy, technology, and other interest areas. Study abroad is a research component for the thesis or thesis project and develops student credibility and capability for eventual career advancement.

Of particular note, the homeland security program sponsors collaborative study abroad efforts in Mexico that builds positive relationships with government, non-government, and the private-sector in Baja California who work together to make the border region a productive, secure, and vibrant partnership. Working with Mexican officials to solve shared problems offers opportunities to build solutions to complex problems as models for other countries worldwide.

Contact a homeland security academic adviser for evaluation and approval of a program of study and information on study abroad opportunities. The primary focus is to build classes, research, and study abroad for a career preparation portfolio.

Admission to Graduate Study
The homeland security program accepts admission for both the fall and spring semesters. The application deadlines are posted on the website at https://hsec.sdsu.edu/admission or can be obtained from the homeland security program directors or graduate adviser. 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 demonstrate sufficient preparation for the program. This may include a bachelor's degree in sciences, engineering, law enforcement, international security, public policy, or a related discipline providing educational preparation for a career in homeland security. The degree must be from an accredited institution or indicate completion of equivalent academic preparation as determined by the Graduate Dean. Evaluation of a student's transcript will be made on an individual basis by the admissions committee to determine whether evidence of sufficient preparation can be demonstrated. A student whose preparation is deemed insufficient by the admissions committee may be admitted as conditionally classified and will be required to complete specified courses in addition to the minimum of 30 units required for the degree.

The grade-point average required for admission to the master's program in homeland security is 2.85 in undergraduate coursework plus satisfactory scores on the verbal and quantitative sections of the GRE. An interview by the admissions committee may also be required.

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.

All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the homeland security program. For information about specific admissions requirements, visit http://hsec.sdsu.edu/admission.

Graduate Admissions
The following materials should be submitted as a complete package directly to:
Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended; NOTE:
- Students who attended SDSU need only submit transcripts for work completed since last attendance.
- Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

(2) GRE scores (http://www.ets.org SDSU institution code 4682);
(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

Homeland Security Program
The following materials should be submitted electronically to the homeland security program admission committee. Submission instructions are available at http://hsec.sdsu.edu/admission.

(1) Two letters of recommendation from persons in a position to judge academic ability (in sealed, signed envelopes);
(2) One letter of recommendation from a person in a position to judge professional ability and potential (in sealed, signed
envelope); (3) A two-page maximum personal statement giving reasons for choosing homeland security as a degree objective; (4) A two-page maximum personal statement summarizing applicant's qualifications, skill sets, and life experiences as they apply to the homeland security degree; (5) A current resume or curriculum vitae.

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

Specific Requirements for the Master of Science Degree
(Major Code: 22102) (SIMS Code: 779001)
In addition to meeting the requirements for the Master of Science degree, as described in Part Four of this bulletin, students must complete 30 units of coursework in an officially approved course of study as outlined below. Students must earn a minimum grade point average of B (3.0) in the master's program and no less than a C in each course. Students may meet the culminating experience requirement through Plan A by completing H SEC 799A or through Plan B by completing H SEC 790 and successfully passing a comprehensive examination.

Graduate Program (30 units)

I. Core Courses (12 units)
- H SEC 601 Seminar in Homeland Security (3)
- H SEC 602 Seminar in Science, Technology, and Homeland Security (3)
- H SEC 603 Seminar in Emergency Preparedness and Response (3)
- H SEC 604 Seminar in Law, Society, and Homeland Security (3)

II. Homeland Security electives: Six units in consultation with program adviser.

III. Non-Homeland Security electives: Six units in consultation with program adviser.

IV. Study Abroad (3 units). All homeland security graduate students are required to complete a homeland security-related study abroad experience. To meet this requirement, students must complete one of the following with the preapproved and written consent of the program adviser:
1. H SEC 650 Homeland Security Study Abroad (3 or 6);
2. A CSU Study Abroad Program;
3. An SDSU Exchange Program;
4. An SDSU Semester Abroad Program;
5. An SDSU Travel Study Program;
6. A homeland security practicum, special topics, special study, or research conducted abroad.
See the program adviser to make arrangements to meet the study abroad requirement.

V. Plan A or Plan B (3 units). Students who complete Plan A, thesis or project option must include H SEC 799A in their program of study. Students who complete Plan B, non-thesis option must include H SEC 790 in their program of study and pass a comprehensive examination.

International Security and Trade Certificate
(Offered through the College of Extended Studies) (SIMS Code: 779011)
The certificate program in international security and trade provides the intellectual and practical context for linking enhanced trade across international borders such as the United States-Mexico border with enhanced security. By using technology, information sharing, collaboration, and policy changes to enhance public-private partnerships between the trade and security communities on both sides of the border, this program is designed to help federal law enforcement, such as U.S. Customs and Border Protection, to redefine borders as zones of major economic productivity and enhanced security from the success of business and government working together for the citizens of both countries.

A student wishing to be admitted to this certificate program must meet the General Admission Requirements as described in Part Two of this bulletin. Students must meet the professional, personal, scholastic, and other standards prescribed by the appropriate department and the Graduate Council. Participation in border-related professional activities such as U.S. Customs and Border Protection, professional trade organizations, corporate groups involved in international trade, and government leaders from both sides of the border or globally is required.

Required courses (12 units):
- H SEC 610 Seminar in International Security and Trade (3)
- H SEC 612 Seminar in Cyber Security and Trade (3)
- H SEC 614 Seminar in International Law Enforcement for Trade and Security (3)

Students must earn a 3.0 grade point average in these courses with no less than a C in any course. Courses taken for this certificate program will not apply towards the master's degree program in homeland security.

For more information, contact the program adviser, Eric Frost, Director, homeland security graduate program, eric.frost@mail.sdsu.edu.
Courses Acceptable for Master's Degree Program in Homeland Security (H SEC)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

GRADUATE COURSES

H SEC 601. Seminar in Homeland Security (3)
Prerequisite: Classified graduate standing.
Domestic, national security, and foreign policies as they relate to prevention, deterrence, preemption, defense against, and response to terrorist attacks and other man-made and natural critical incidents and emergencies on local, regional, national, and international levels.

Prerequisite: Classified graduate standing.
Interrelationship of technology and science to homeland security policy. Use of technology and science for decision-making and collaboration. Ethical issues associated with application of technology and science to security.

H SEC 603. Seminar in Emergency Preparedness and Response (3)
Prerequisite: Classified graduate standing.
Practices of emergency management and response in civilian and military settings. Historical development of management of and response to emergencies and critical incidents. Interrelationship of public, private, and non-profit sectors on local, regional, national, and international levels.

H SEC 604. Seminar in Law, Society, and Homeland Security (3)
Prerequisite: Classified graduate standing.
Role and function of law related to homeland security on domestic and international levels. Historical development of ideas and rules of homeland security-related law and their relation to domestic and international legal, social, and political structures. Interrelationship of security, human, and civil rights.

H SEC 610. Seminar in International Security and Trade (3) (Offered only in the College of Extended Studies)
Linking global trade and security as complementary activities, especially at the US-Mexico border. Integrating technology, sensors, computing, and government regulations to a common goal. Global international trade optimization.

H SEC 611. Seminar in Earth Systems, International Security and Trade (3) (Offered only in the College of Extended Studies)
Dynamic Earth systems can alter the flow of people, goods, and services. Raw materials and manufactured products is key to global trade and security. International trade optimization in a cross-disciplinary mode.

H SEC 612. Seminar in Cyber Security and Trade (3) (Offered only in the College of Extended Studies)
Cyber security, warfare, and espionage as they relate to international trade and security. Enabling and protecting trade during disasters or against criminal organizations.

H SEC 614. Seminar in International Law Enforcement for Trade and Security (3) (Offered only in the College of Extended Studies)
Law enforcement training and planning to fulfill unique missions surrounding trade and security in an emerging world of asymmetric threats and globalization. Collaboration, information sharing, intelligence, threat analysis in public and private sectors.

H SEC 620. Seminar in Warfare and Homeland Security (3)
Prerequisite: Classified graduate standing.

H SEC 650. Homeland Security Study Abroad (3) (Offered only in the College of Extended Studies)
Prerequisite: Classified graduate standing.
Selected topics in homeland security taught abroad. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree. Contact program adviser for more information.

H SEC 690. Seminar (3)
Prerequisite: Classified graduate standing.
Intensive study in specific areas of homeland security on themes such as intelligence, domestic and international law and security, GIS and security, sensors and security, privacy and security. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

H SEC 695. Practicum in Homeland Security (3)
Prerequisite: Classified graduate standing.
Practical exercises related to homeland security. Cooperative exercises with first responders, homeland security officials, and/or non-governmental organizations on local, regional, national, and/or international level. Maximum credit three units applicable to a master's degree.

H SEC 696. Special Topics in Homeland Security (1-3)
Prerequisite: Classified graduate standing.
Study in specific areas of homeland security. May be repeated with new content with the approval of graduate adviser. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

H SEC 790. Directed Readings in Homeland Security (3) Cr/NC
Prerequisites: Advancement to candidacy and Plan B (non-thesis option).
Preparation for the comprehensive examination. For use in conjunction with Plan B (non-thesis option) only. Maximum credit three units of Homeland Security 790, 797, or 798 applicable to a master's degree.

H SEC 797. Research (1-3) Cr/NC
Prerequisites: Classified graduate standing and consent of instructor.
Supervised research in an area of homeland security. Maximum credit three units of Homeland Security 790, 797, or 798 applicable to a master's degree.

H SEC 798. Special Study (1-3) Cr/NC
Prerequisites: Classified graduate standing and consent of instructor.
Individual study, generally for thesis research. Maximum credit three units of Homeland Security 790, 797, or 798 applicable to a master's degree.

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

H SEC 799B. Thesis or Project (0) Cr/NC
Prerequisite: Prior registration in Thesis or Project 799A with an assigned grade of RP.
Registration required in any semester or term following assignment of RP 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.

H SEC 799C. Comprehensive Examination Extension (0) Cr/NC
Prerequisite: Completion of degree program courses.
Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.
Hospitality and Tourism Management

In the L. Robert Payne School of Hospitality and Tourism Management
In the College of Professional Studies and Fine Arts

OFFICE: Professional Studies and Fine Arts 436B
TELEPHONE: 619-594-5110 / FAX: 619-594-4443
http://mastershtm.sdsu.edu

Director of School: Carl Winston
Director of Graduate Program: J. Jeffrey Campbell

Faculty
Lawrence A. Beck, Ph.D., Professor of Hospitality and Tourism Management
Mark R. Testa, Ph.D., Professor of Hospitality and Tourism Management
Jess Ponting, Ph.D., Associate Professor of Hospitality and Tourism Management
Vinod Sasidharan, Ph.D., Associate Professor of Hospitality and Tourism Management
Katherine A. Spilde, Ph.D., Associate Professor of Hospitality and Tourism Management
Lori J. Sipe, Ph.D., Assistant Professor of Hospitality and Tourism Management

Gary D. Hirsch, Ph.D., Associate Professor of Hospitality and Tourism Management
Mark R. Testa, Ph.D., Professor of Hospitality and Tourism Management
Lori J. Sipe, Ph.D., Assistant Professor of Hospitality and Tourism Management

Master of Science Degree in Hospitality and Tourism Management
(Offered through the College of Extended Studies)

General Information
The L. Robert Payne School of Hospitality and Tourism Management offers a program of study leading to the Master of Science degree in hospitality and tourism management (HTM). This program is designed for upwardly mobile industry professionals desiring additional professional and advanced education to proceed to the next level of leadership as a director, general manager, or senior leader within a hospitality, tourism, or recreation organization or agency. The degree curriculum focuses on the development of analytical, strategic thinking, and administrative/organizational skills specific to the industry and is designed to be innovative, unique, and forward thinking. A blended method of instruction using intensive, on-campus instruction complemented by online teaching and off-campus experiential activities and projects is specifically designed for professionals who wish to continue their education while maintaining their current positions within the industry. The program is also supported by six research centers and institutes to include the Center for Hospitality and Tourism Research; Sycuan Institute on Government Gaming; Center for Global Gaming Research; Institute for Meetings and Events; Center for Surf Research; and the Institute for Leisure and Tourism Management.

Admission to Degree Curriculum
In addition to meeting the criteria for admission to the university, applicants must also demonstrate significant experience in management-level positions in hospitality, recreation, or tourism organizations. Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.
All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the Hospitality and Tourism Management program.

Graduate Admissions
The following materials should be submitted as a complete package directly to:
Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;
NOTE:
• Students who attended SDSU need only submit transcripts for work completed since last attendance.
• Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.
(2) GRE or GMAT scores (http://www.ets.org SDSU institution code 4682);
(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

Hospitality and Tourism Management Program
The following materials should be mailed or delivered to:
Hospitality and Tourism Management
Admissions Committee
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-4531

(1) Two letters of recommendation from persons in a position to judge professional ability (in sealed, signed envelopes);
(2) One letter of recommendation from a person in a position to judge academic ability (in sealed, signed envelope);
(3) A two-page maximum personal statement giving reasons for choosing hospitality and tourism management as a degree objective;
(4) A two-page maximum personal statement summarizing applicant’s qualifications, skill sets, and life experiences as they apply to the hospitality and tourism management degree.

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

Specific Requirements for the Master of Science Degree
(Major Code: 05081) (SIMS Code: 663120)
The Master of Science degree in Hospitality and Tourism Management is offered by the L. Robert Payne School of Hospitality and Tourism Management and is a specialized approach to graduate education for industry executives. The program is designed especially to meet the needs of mid-career executives who desire the necessary educational acumen for managing complex organizational systems in the hospitality, recreation, and tourism industry. Students in the program have an average of five to fifteen years of full-time professional work experience and four to eight years of managerial or equivalent experience in the hospitality, recreation, and/or tourism industry, and bring a wealth of knowledge and industry experience to the classroom. The program allows the faculty to tailor or customize the curricular content to meet student needs for various industry segments based on their professional needs.
on an initial appraisal or assessment completed prior to registering in classes. New students accepted for the M.S. degree in hospitality and tourism management are fully matriculated in the university and meet all university requirements as established by the Graduate Division. The degree is a 17-month program utilizing a blended instructional model in which students complete courses offered in an online format and also in intensive face-to-face sessions during residency periods on-campus, which are 7 days in length and offered at the beginning and conclusion of the program. The fee structure is unique to the program and unrelated to the usual San Diego State University fee schedule. Students should contact the L. Robert Payne School of Hospitality and Tourism Management office for a program calendar, Class Schedule, and fee summary. In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Four of this bulletin, students must complete an approved program of study containing 30 units of 600- and 700-numbered courses. These courses will be offered in a predetermined pattern for entering student cohorts. No transfer courses and no substitute courses are accepted. The official programs of all students in any one cycle are identical. Advancement to candidacy requires completion of at least 12 units of coursework listed on the official program of study with a minimum grade point average of 3.0 (B).

Courses Acceptable for Master's Degree Program in Hospitality and Tourism Management (HTM)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSE

HTM 596. Selected Topics in Hospitality and Tourism Management (1-3)
Prerequisite: Upper division or graduate standing.
Selected topics in hospitality, tourism, and/or tribal gaming management. 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

GRADUATE COURSES

HTM 601. Leadership Explorations and Applications in HTM (3).
Prerequisite: Admission to M.S. program in hospitality and tourism management.
Concepts, theories, and techniques of leadership as applied to hospitality, tourism, and recreation organizations, and businesses. Experience in teamwork, interpersonal networks, managing change and conflict, controlling environmental factors.

HTM 602. Theoretical Foundations of Leadership and Management in HTM (3)
Prerequisite: Admission to M.S. program in hospitality and tourism management.
Directed reading and discussion of textual materials designed as an underpinning for future coursework and analytical projects pertaining to leadership and management in the hospitality, tourism, and recreation professions.

HTM 651. Financial Analysis in HTM (3).
Prerequisites: Hospitality and Tourism Management 601 and 602.
Financial decision-making in a hospitality/tourism/recreation context to include analysis of financial statements, capital projects, deploying capital effectively, asset management, battling marginal compression, return on investment, optimizing return performance. Case studies and projects provide practical experience.

Prerequisites: Hospitality and Tourism Management 601 and 602.
Human side of leadership with a focus on individuals, teams, and networks in interdependent and complex organizational systems in hospitality and tourism management. Investigates adaptive leadership, culture development, and performance improvement within the context of organizational development and change.

HTM 655. Twenty-First Century Marketing in HTM (3).
Prerequisites: Hospitality and Tourism Management 601 and 602.
Advanced concepts and theories of hospitality and tourism marketing in the context of the fast-evolving sub-field of services marketing. Application of advanced marketing strategies to a variety of HTM businesses and organizations nationally and internationally.

HTM 680. Mastering Technology in an HTM Operational Setting (3)
Prerequisites: Hospitality and Tourism Management 651, 653, 655.
Systems, techniques, strategies, and foundations of technology in hospitality, tourism, and recreation businesses and organizations with emphasis on performance metrics and system adaptability. Project oriented coursework with opportunities for system analysis, integration, and design.

HTM 682. Sustainability in Hospitality, Tourism, and Recreation Organizations (2)
Prerequisites: Hospitality and Tourism Management 651, 653, 655.
Development of a comprehensive sustainability management system incorporating marketing and communication, goal setting, developing performance indicators and metrics, benchmarking, and strategies for ongoing, measurable, sustainability performance improvement.

HTM 690. Systems Problems Resolution in HTM (3)
Prerequisites: Hospitality and Tourism Management 651, 653, 655.
Project oriented course on solving real problems in hospitality, tourism, and recreation organizations and businesses.

HTM 696. Special Topics in Hospitality and Tourism Management (1-3)
Prerequisite: Classified graduate standing.
Study in specific areas of hospitality and tourism management. May be repeated with new content with the approval of graduate adviser. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

HTM 780. Seminar: Strategy Development and Critical Analysis in HTM (3)
Prerequisites: Hospitality and Tourism Management 680, 682, 690.
Case study analysis requiring command of all previously delivered program course material to include data analysis, effective teamwork and leadership, and overall organizational assessment.

HTM 790. Directed Readings in Hospitality, Tourism, and Recreation Management (3) Cr/NC
Prerequisites: Hospitality and Tourism Management 680, 682, 690, and advancement to candidacy.
Preparation for the comprehensive examination for students in Plan B.

HTM 797. Research (1-3) Cr/NC
Prerequisites: Classified graduate standing and consent of instructor.
Supervised research in an area of hospitality and tourism management. Maximum credit three units of Hospitality and Tourism Management 790, 797, or 798 applicable to a master's degree.

HTM 798 Special Study (1-3) Cr/NC
Prerequisites: Classified graduate standing and consent of instructor.
Individual study, generally for thesis research. Maximum credit three units of Hospitality and Tourism Management 790, 797, or 798 applicable to a master's degree.

HTM 799C. Comprehensive Examination Extension (0) Cr/NC
Prerequisite: Completion of degree program courses.
Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.
Interdisciplinary Studies
Administered by the Division of Graduate Affairs

General Information
When the existing advanced degree programs of the university do not adequately meet certain special needs and interests, a student may propose a Master of Arts or Master of Science degree in Interdisciplinary Studies. This degree program provides the unusually well-qualified student an opportunity for individualized graduate study composed of coursework in at least two but not more than three departments or schools at SDSU. The Division of Graduate Affairs administers this program following procedures established by the Graduate Council.

The proposed program must not be substantially available in a current graduate program offered at the university, and it must have adequate focus and coherence in cognate disciplines. Prerequisite courses may 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 Division of Graduate Affairs. 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 designee shall serve as an ex officio member of the committee.

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 academic background appropriate to 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. Since an approved course of study is required for classified students. Students admitted conditionally must submit an approved program of study within two semesters. If the proposed curriculum is not approved, the student will have the option of applying for admission to an alternative advanced degree program.

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.

All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the Division of Graduate Affairs.

Graduate Admissions
The following materials should be submitted as a complete package directly to:
Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;

NOTE:
• Students who attended SDSU need only submit transcripts for work completed since last attendance;
• Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation;

(2) GRE scores (http://www.ets.org SDSU institution code 4682);

(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

Advancement to Candidacy
In addition to satisfying the general requirements of the university for advancement to candidacy, as stated in Part Four of this bulletin, the student must satisfy the special requirements for advancement defined by the supervisory committee in the official program of study. Students are admitted to interdisciplinary studies as conditionally classified students. Students admitted conditionally must submit an approved program of study within two semesters. If the proposed curriculum is not approved, the student will have the option of applying for admission to an alternative advanced degree program.

Specific Requirements for the Master's Degree
(Major Code: 49993) (SIMS Code: M.A. 995010; M.S. 995030)
1. In addition to satisfying the requirements for classified graduate standing and the basic requirements for the master's degree, as described in Part Four 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 nine units taken prior to approval of the official program of study may apply to 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.
General Procedures for the Program

Students must take the following steps to obtain classified student status:

1. After meeting with the assistant dean of the Division of Graduate Affairs, a student must complete and follow the instructions on the form, “Request for Permission to Pursue an Interdisciplinary Studies Master’s Degree,” which is available in the Division of Graduate Affairs. 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 Division of Graduate Affairs should be arranged. In some instances, 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 recommendations, to the Division of Graduate Affairs, where it will be reviewed by the graduate dean for final endorsement to 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 interdisciplinary 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 chair of the supervisory committee or to the Division of Graduate Affairs.

Courses Acceptable for Master’s Degree Program in Interdisciplinary Studies (INT S)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

GRADUATE COURSES

INT S 600. Big Data Analytics Capstone Seminar (3)
Prerequisites: Geography 594, Business Administration 623, Linguistics 572, Management Information Systems 686.
Capstone course to integrate data analytics knowledge. Big data problems and research challenges. Student teams conduct group projects and present findings.

INT S 690. Seminar in Research Ethics (1) Cr/NC
Prerequisite: Graduate standing.
Core content areas that influence responsible conduct of research (RCR) including research misconduct, data management, use of animal and human subjects, conflict of interest and commitment, authorship, publication and peer review, and collaboration and mentoring. Intended for graduate students involved in research projects. Meets NIH and NSF training grant requirements for RCR instruction.

INT S 797. Research (1-3) Cr/NC/RP
Prerequisites: Advancement to candidacy and completion of Special Study Request Form.
Independent research in a specialized subject. Maximum six units applicable to a master’s degree.

INT S 798. Special Study (1-3) Cr/NC/RP
Prerequisite: Completion of Special Study Request Form.
Independent study. Maximum credit six units applicable to a master’s degree.

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

INT S 799B. Thesis or Project Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of RP.
Registration in any semester or term following assignment of RP in Course 799A 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 or project is granted final approval.

INT S 799C. Comprehensive Examination Extension (0) Cr/NC
Prerequisite: Completion or concurrent enrollment in degree program courses.
Registration required of students whose only requirement is completion of the comprehensive examination for the master’s degree. Registration in 799C limited to two semesters.
The School of Journalism and Media Studies offers graduate study leading to the Master of Arts degree in communication with a specialization in mass communication and media studies. This degree prepares students either for additional graduate work, leadership positions in key media industries and professional areas, or teaching positions in key media industries and professional associations. Graduate teaching associateships are available to a limited number of qualified students. Contact the school director for details. Please submit graduate application materials by February 1 for the subsequent fall semester.

Admission to Graduate Study

The specialization in mass communication and media studies admits students for the fall semester only. Electronic applications must be received by February 1. Materials must be complete and received by March 1.

In addition to meeting the general requirements for admission to the university with classified graduate standing as outlined in Part Two of this bulletin, students applying for admission to the Master of Arts degree in communication with a specialization in mass communication and media studies are evaluated according to the following criteria:

1. Undergraduate major or minor in advertising, journalism, media studies, public relations, radio-television, strategic communication, or a related discipline. Those lacking adequate undergraduate preparation may be admitted conditionally to the program and may be required to take one or more proficiency courses as determined by the school's graduate admissions committee. Proficiency courses do not count toward the 30 units of a student's graduate program.

2. Minimum grade point average of 2.85 (when A equals 4.0) in the last 60 semester (90 quarter) units attempted (this calculation may not include lower division courses taken after award of a baccalaureate degree).

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee by February 1.

All applicants must submit admissions materials online to SDSU Graduate Admissions and to the School of Journalism and Media Studies by March 1.

Graduate Admissions

The following materials should be submitted by February 1 as a complete package directly to:

Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;

NOTE:
• Students who attended SDSU need only submit transcripts for work completed since last attendance.
• Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

(2) GRE scores (http://www.ets.org SDSU institution code 4682, department code 4503). All applicants must post a Graduate Record Examination (GRE) verbal score of 450 (old) or 150 (new) or higher; a GRE quantitative score of 450 (old) or 142 (new) or higher; a combined GRE verbal and quantitative score of 950 (old) or 295 (new) or higher; and a GRE writing assessment (GRE-W) of 4.0 (old and new) or higher.

(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

For international applicants for whom English is not their first language, English language paper scores of 550 (or 213 online) or higher. Satisfaction of minimum requirements is not a guarantee of admission.
Journalism and Media Studies

School of Journalism and Media Studies

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

Specific Requirements for the Master of Arts Degree
(Major Code: 06011)
In addition to meeting the requirements for the Master of Arts degree as described in Part Four of this bulletin, the student must complete a minimum of 30 units in courses acceptable in master’s degree programs. At least 18 units of the total program must be in courses numbered 600—799. Approval of the graduate adviser is required for all courses numbered 500—599. With the approval of the graduate adviser, students may take up to nine units of graduate coursework in departments other than the School of Journalism and Media Studies. Students may not repeat any course in their program of study without consent of the graduate adviser and instructor.

Specialization in Mass Communication and Media Studies
(SIMS Code: 664141)
This specialization offers advanced study for individuals seeking additional knowledge of advertising, public relations, journalistic practices, emerging digital and social media technologies, or the impact of mediated communication practices on individuals, groups, and society as a whole. The program of study is appropriate for individuals who seek to enhance their careers in journalism, advertising, or public relations; who wish to pursue careers involving new media industries; who wish to teach at the community college level; or who wish to continue studies of mass communication and media at the doctoral level. Please see the School of Journalism and Media Studies website for the most current information.

Proficiency Requirements. Individuals must demonstrate relevant undergraduate coursework for their desired area of focus within the specialization. Individuals without adequate preparation may be asked to take proficiency courses. Specific proficiency courses will be determined in consultation with the graduate adviser after admission to the program.

Graduate Courses. Students may select Plan A, thesis, by completing Journalism and Media Studies 799A (3 units) or, if Plan B is selected, the student must complete three additional units of 600—700 level coursework in the School of Journalism and Media Studies and pass the Comprehensive Examination in journalism and media studies. The remaining 27 units of the program must include completion of Journalism and Media Studies 600A and 600B with an average grade of B (3.0) or better in the two courses, or consent of the Journalism and Media Studies faculty; 12 units selected from Journalism and Media Studies 506, 527, 529, 547, 560, 566, 567, 574, 581, 585, 587, 590, 591, 595, 596, 620, 696, 701, 710, 780, 785, 798, and nine units relevant to the specialization selected with the approval of the graduate adviser. No more than nine units may be taken outside the School of Journalism and Media Studies. No more than six units may be taken as special study (798). No more than 12 units taken at the 500-level may count toward the degree.

Courses Acceptable for Master’s Degree Programs in Journalism and Media Studies (JMS)
Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

JMS 506. Advertising and Society (3)
Prerequisite: Admission to a major in the School of Journalism and Media Studies. Proof of completion of prerequisites required: Copy of transcript; Theoretical and philosophical analysis of advertising in modern society.

JMS 527. Advanced Topics in Journalism (3)
Prerequisites: Journalism and Media Studies 300 with a grade of C (2.0) or better. Admission to journalism major.
Reading, investigation, and research in a specialized topic in journalism. May be repeated with new content. Maximum credit six units.

JMS 529. Data-Driven Investigative Journalism (3)
One lecture and four hours of activity. Prerequisite: Journalism and Media Studies 420 with a grade of C (2.0) or better. Proof of completion of prerequisite required: Copy of transcript; History and role of investigative journalism in the U.S. Use of the Internet, public records, spreadsheets, and databases to develop stories in the public interest. Finding patterns and leads in electronic data. Field and laboratory experience.

JMS 547. Advanced Topics in Media Studies (3)
Prerequisites: Journalism and Media Studies 408 with a grade of C (2.0) or better. Admission to media studies emphasis, Major Code: 15060.
Reading, investigation, and research in a specialized topic in media studies. May be repeated with new content. Maximum credit six units.

JMS 550. Multimedia News Laboratory (3)
One lecture and four hours of activity. Prerequisites: Journalism and Media Studies 420, 430 with a grade of C (2.0) or better in each course. Proof of completion of prerequisites required: Copy of transcript; Capstone course using skills and knowledge acquired in critical thinking, writing, reporting, editing, production, and design courses. Preparation of multimedia news content. Field and laboratory experience. Completion of course with grade of C (2.0) or better is required for majors.
JMS 560. Advertising Research (3)
Prerequisites: Journalism and Media Studies 310W, 460, 462 with a grade of C (2.0) or better in each course. Admission to advertising emphasis, Major Code: 06041. Proof of completion of prerequisites required: Copy of transcript.
Planning, evaluation, analysis of qualitative and quantitative research across traditional, digital, and social platforms. Ethics, sampling, experimentation, data analysis, segmentation, brand mapping, advertising testing and optimization, social media metrics.

JMS 562. Advertising Creative (3)
One lecture and four hours of activity.
Prerequisites: Journalism and Media Studies 310W, 460, 462 with a grade of C (2.0) or better in each course. Admission to advertising emphasis, Major Code: 06041. Proof of completion of prerequisites required: Copy of transcript.
Advertising, applying consumer insights, developing creative strategies, drafting creative briefs. Writing and design of advertising for traditional, digital, social, emerging media platforms. Multimedia laboratory experience. (Formerly numbered Journalism and Media Studies 461.)

JMS 565. Advertising Campaigns (3)
Prerequisites: Journalism and Media Studies 560, 562 with a grade of C (2.0) or better in each course. Branding campaigns using traditional, digital, and social media. Strategy for owned, earned, and paid media. Consumer analysis, community definition. Creative development. Media strategy and tactics. Campaign measurement. Completion of course with grade of C (2.0) or better is required for majors.

JMS 566. Advertising Strategy and Digital Analytics Platforms (3)
Prerequisites: Journalism and Media Studies 460 or 490, and Journalism and Media Studies 560 or 581.
Strategy creation, implementation, and evaluation using digital analytics platforms. Digital analytics administration, monitoring, analysis, and reporting. Application of digital analytics to consumer advertising optimization.

JMS 567. Advanced Topics in Advertising (3)
Prerequisites: Journalism and Media Studies 460 with a grade of C (2.0) or better. Admission to advertising emphasis, Major Code: 06041.
Reading, investigation, and research in a specialized topic in advertising. May be repeated with new content. Maximum credit six units.

JMS 574. International Advertising (3)
Prerequisite: Admission to a major in the School of Journalism and Media Studies.
Comparative cultural, economic, legal, political, and social conditions relevant to international advertising.

JMS 581. Applied Research in Public Relations (3)
Two lectures and two hours of activity.
Prerequisites: Journalism and Media Studies 310W and 480 with a grade of C (2.0) or better in each course. Admission to public relations emphasis, Major Code: 05992. Proof of completion of prerequisites required: Copy of transcript.
Qualitative and quantitative methods used in research to plan, track, evaluate public relations and communication practices. Computerized statistical analysis.

JMS 582. Seminar in Media and Politics (3)
Prerequisites: Upper division or graduate standing and Journalism and Media Studies 489 or 560 or credit or concurrent registration in Journalism and Media Studies 600B.
Mass media on domestic, global politics, elections. Theories, concepts, history of media and politics. Impact of digital and social media on political process.

JMS 585. Professional Practices in Public Relations (3)
Prerequisites: Journalism and Media Studies 481 and 581 with a grade of C (2.0) or better in each course. Cases in public relations management. Theory and practice of issues management. Integration of public relations function in strategic management of corporate, governmental, nonprofit, social, and cultural organizations. Completion of course with grade of C (2.0) or better is required for majors.

JMS 587. Advanced Topics in Public Relations (3)
Prerequisites: Journalism and Media Studies 480 with a grade of C (2.0) or better. Admission to public relations emphasis, Major Code: 05992.
Reading, investigation, and research in a specialized topic in public relations. May be repeated with new content. Maximum credit six units.

JMS 590. Seminar in Crisis Communication in PR Management (3)
Prerequisite: Upper division or graduate standing.
Theory, research, practice of crisis communication in public relations; development of crisis management plans; critical examination of classic/contemporary crisis management cases, both domestic and international.

JMS 591. Global Technology: Creativity and Innovation in the Digital Age (3)
Prerequisite: Admission to a major in the School of Journalism and Media Studies. Proof of completion of prerequisite required: Copy of transcript.
Economic, social, and political shifts in the global economy as a result of digital communication. Emergence of new national and international media policies to stimulate creativity and innovation as central factors in development.

JMS 595. Seminar in Theoretical Approaches to Public Relations (3)
Prerequisite: Journalism and Media Studies 585 with grade of C (2.0) or better, or graduate standing. Diverse theoretical approaches to public relations, including management, rhetorical, critical, relational and marketing approaches. Preparation for independent scholarly research project or master's thesis.

JMS 596. Selected Topics (1-3)
Prerequisite: Senior standing or above.
Specialized study in selected topics. 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

GRADUATE COURSES

JMS 600A. Seminar: Introduction to Graduate Studies in Mass Communication and Media Studies (3)
Prerequisite: Classified or conditionally classified graduate standing in the School of Journalism and Media Studies.
Contemporary and emergent mass communication theory. Extensive writing from exercises in bibliographical techniques, database searches, reference works, scholarly journals, and research proposal. Required for first semester of graduate work; prerequisite for advancement to candidacy. May not be repeated more than once.

JMS 600B. Seminar: Research Methods in Mass Communication and Media Studies (3)
Prerequisite: Classified or conditionally classified graduate standing in the School of Journalism and Media Studies.
Methods and tools of inquiry in mass communication research. Survey, experimental, content analysis, legal, and historical research methods. Required for first semester of graduate work; prerequisite for advancement to candidacy. May not be repeated more than once.

JMS 602. Seminar: Military Public Affairs (3)
Prerequisite: Admission to M.A. program in the School of Journalism and Media Studies.
Public relations theory, history, ethics, social responsibility, management, law and technology. Current problems and issues in military public affairs.
JMS 603. Seminar: Professional Development in Military Public Affairs (3)
Prerequisite: Admission to M.A. program in the School of Journalism and Media Studies.
Preparing research findings for external review, using methods that include statistical data analysis. Prepare for professional examination in public relations.

JMS 620. Seminar: Quantitative Methods in Media Research (3)
Prerequisites: Journalism and Media Studies 600A and 600B.
Research, design, computer statistical analysis, and reporting of survey, content analysis, and experimental studies in media contexts.

JMS 696. Special Topics (1-3)
Prerequisites: Journalism and Media Studies 600A and 600B.
Intensive study in specific areas of journalism and media studies. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

JMS 701. Seminar: Mass Communication Problems (3)
Prerequisites: Journalism and Media Studies 600A and 600B.
Reading, investigation, and research concerning current topics in problems of mass media. May be repeated with new content. Maximum credit six units.

JMS 710. Seminar: Media and Social Influence (3)
Prerequisites: Journalism and Media Studies 600A and 600B.
Role of media in social influence processes. Media strategies for use in social marketing and political campaigns.

JMS 780. Seminar: Advanced Theory in Public Relations (3)
Prerequisites: Journalism and Media Studies 600A and 600B.
Analysis and critique of contemporary public relations theory. Development of scholarly works that explicate concepts or otherwise advance public relations theory.

JMS 785. Seminar: Advertising Research (3)
Prerequisites: Journalism and Media Studies 600A and 600B.
Advanced topics in theory, design, and utilization of advertising research.

JMS 798. Special Study (1-3) Cr/NC/RP
Prerequisites: Journalism and Media Studies 600A and 600B.
Contract required. Arranged with graduate coordinator in area of study. Individual study. Maximum credit six units applicable to a master's degree.

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

JMS 799B. Thesis or Project Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis or Project 799A with an assigned grade symbol of RP.
Registration in any semester or term following assignment of RP 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.

JMS 799C. Comprehensive Examination Extension (0) Cr/NC
Prerequisite: Completion or concurrent enrollment in degree program courses.
Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.
Master of Science Degree in Kinesiology

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, a student applying for admission to the graduate program in exercise physiology must meet the following requirements:

1. A bachelor's degree. Applicants who do not have an undergraduate major in kinesiology or related discipline may be admitted to conditionally classified graduate standing on the recommendation of the graduate adviser of the school. Students will be required to complete or have equivalent preparation in Biology 212, 336, Exercise and Nutritional Sciences 306, 304, 307, and an undergraduate statistics course.

2. A grade point average (GPA) of at least 3.0 overall or at least 3.0 the last 60 units of baccalaureate coursework.

3. A minimum score of 475 (old GRE score) or 151 (new GRE score) on the verbal and 475 (old GRE score) or 142 (new GRE score) on the quantitative sections of the GRE General Aptitude Test.

Students will be admitted ONLY in the fall semester. Submit applications by the application deadline. Applicants should refer to the admission to master's and doctoral study section for application instructions. All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the School of Exercise and Nutritional Sciences.

Graduate Admissions

The following materials should be submitted as a complete package directly to:

Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

1. Official transcripts (in sealed envelopes) from all postsecondary institutions attended:

   NOTE:
   - Students who attended SDSU need only submit transcripts for work completed since last attendance.
   - Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

2. GRE scores (http://www.ets.org SDSU institution code 4682):

3. English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy, as described in Part Four of this bulletin.
Specific Requirements for the Master of Science Degree
(Major Code: 08351)

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 Four of this bulletin. The 36-unit program includes a minimum of 28 units in exercise and nutritional sciences, biology, and doctor of physical therapy courses acceptable in master's degree programs in kinesiology, of which at least 28 units must be in 600- and 700-numbered courses. Also, students can complete their degree by choosing either Plan A or Plan B. If students select Plan A, Exercise and Nutritional Sciences 799A (thesis) is required for completion of their degree, accompanied by a final oral examination on the field of the thesis/project and on the implications of the thesis research for the broader field of kinesiology. If students select Plan B, Exercise and Nutritional Sciences 790 (Directed Readings) is required for completion of the degree.

Students seeking a Master of Science degree in kinesiology with a specialization in applied movement science are required to develop a formal plan of study that must be approved by the graduate adviser before being forwarded to the Division of Graduate Affairs. Students are required to take mandated core courses and select a number of electives. The offerings in the specialization allow a student to achieve certain competencies once the degree has been completed. The school expects a student to complete the degree within seven years. Failure to complete the degree requirements within seven years will result in dismissal from the program.

Specialization in Applied Movement Science
(SIMS Code: 556543)

Application of principles of biomechanics, motor control, and neurophysiology to science of physical rehabilitation. Emphasis is placed on techniques of data acquisition and analysis to assess and evaluate motor performance of clinical and non-clinical populations. Required courses for the 36-unit program:

ENS 601 Experimental Methods in Exercise and Nutritional Sciences (3)
ENS 602 Research Evaluation in Exercise and Nutritional Sciences (3)
ENS 610 Biomechanics: Measurement Techniques I – Kinematics (3)
ENS 611 Biomechanics: Measurement Techniques II – Kinetics (3)
ENS 612 Biomechanics: Measurement Techniques III – EMG (3)
ENS 613 Motor Control and Rehabilitation Science (3)
BIOL 570 Neurobiology (3)
DPT 750 Concepts in Physiology, Pathophysiology, and Pharmacology (4)

Electives: Eight units to be selected in consultation with a specialization adviser (a minimum of three units must be in 600- or 700-numbered courses).

Plan A
ENS 799A Thesis (3) Cr/NC/RP
ENS 790 Seminar in Directed Readings (3) Cr/NC

Courses Acceptable for Master's Degree Programs in Kinesiology (ENS)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

Exercise and Nutritional Sciences (ENS)
UPPER DIVISION COURSE

ENS 596. Selected Topics in Exercise and Nutritional Sciences (1-3)
Selected topics in exercise and nutritional sciences. 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 degree. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

ENS 601. Experimental Methods in Exercise and Nutritional Sciences (3)
Prerequisite: Undergraduate statistics course.
Experimental methods in exercise and nutritional science.

ENS 602. Research Evaluation in Exercise and Nutritional Sciences (3)
Prerequisite: Exercise and Nutritional Sciences 601.
Techniques in designing, conducting, and reporting research in exercise and nutritional science. Qualitative and quantitative paradigms examined. Ethical consideration of human research.

ENS 603. Measurement and Evaluation in Exercise and Rehabilitation (3)
Prerequisites: Exercise and Nutritional Sciences 305 and Statistics 119.
Measurement theory and practice as applied to exercise and rehabilitation. Interpretation of measures used in physical medicine and rehabilitation contexts.

ENS 610. Biomechanics: Measurement Techniques I-Kinematics (3)
Prerequisites: Exercise and Nutritional Sciences 306 and 603.
Kinematic analysis of human movement using videography, electrogoniometry, and accelerometry with automated data reduction techniques typically used in study of pathomechanics.

ENS 611. Biomechanics: Measurement Techniques II-Kinetics (3)
Prerequisites: Exercise and Nutritional Sciences 306 and 603.
Kinetic analysis of human movement using clinical tools and laboratory devices to measure loads and forces applied to body under typical and pathological conditions.

ENS 612. Biomechanics: Measurement Techniques III-EMG (3)
Prerequisites: Exercise and Nutritional Sciences 306 and 603.
Tissue structure, neurological function, and muscular performance of typical and pathological human movement.

ENS 613. Motor Control and Rehabilitation Science (3)
Prerequisites: Exercise and Nutritional Sciences 307 and 603.
Intensive study in specific areas of exercise and nutritional sciences. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.
ENS 790. Seminar in Directed Readings (3) Cr/NC
Prerequisites: Exercise and Nutritional Sciences 602 and advancement to candidacy.
Preparation for comprehensive examination for students pursuing either an M.A. or an M.S. degree under Plan B.

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

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

ENS 799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis or Project 799A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP 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.

ENS 799C. Comprehensive Examination Extension (0) Cr/NC
Prerequisite: Completion or concurrent enrollment in degree program courses.
Registration required of students whose only requirement is completion of the comprehensive examination for the master’s degree. Registration in 799C limited to two semesters.
Faculty Committee for Latin American Studies
Ramona L. Pérez, Ph.D., Professor of Anthropology, Chair of Committee and Director of the Center for Latin American Studies (Graduate Coordinator)
Catalina Amuend-Doran, Ph.D., Professor of Economics
Aída Blanco, Ph.D., Professor of Spanish
Fernando J. Bosco, Ph.D., Professor of Geography
David Carruthers, Ph.D., Professor of Political Science
Shawn T. Flanagan, Ph.D., Professor of Public Affairs
Juan M. Godoy Marquet, Ph.D., Professor of Spanish
Jonathan M. Graubart, Ph.D., Professor of Political Science
Lawrence A. Herzog, Ph.D., Professor of Public Affairs, Emeritus (Graduate Adviser)
Norma V. Iglesias Prieto, Ph.D., Professor of Chicana and Chicano Studies
José Mario Martín-Flores, Ph.D., Professor of Spanish
William A. Nericcio, Ph.D., Professor of English and Comparative Literature
Norma Ojeda, Ph.D., Professor of Sociology and Chicana and Chicano Studies
Isidro D. Ortiz, Ph.D., Professor of Chicana and Chicano Studies
[Senate Distinguished Professor]
P.J.E. (Jenny) Quintana, Professor of Public Health
Elisa J. Sobo, Ph.D., Professor of Anthropology
Gregory A. Talavera, M.D., Professor of Public Health
Frederick J. Conway, Ph.D., Associate Professor of Anthropology
Paula S. DeVos, Ph.D., Associate Professor of History
Jill Ebbenshade, Ph.D., Associate Professor of Sociology
Salvador Espinosa, Ph.D., Associate Professor of Public Affairs
Kathleen A. Farley Wolf, Ph.D., Associate Professor of Geography
Victoria C. González-Rivera, Ph.D., Associate Professor of Chicana and Chicano Studies
Maria de la Luz Ibára, Ph.D., Associate Professor of Chicana and Chicano Studies
Irene Lara, Ph.D., Associate Professor of Women's Studies
Matthew T. Lauer, Ph.D., Associate Professor of Anthropology
Kristen Hill Maher, Ph.D., Associate Professor of Political Science
Enrico A. Marcelli, Ph.D., Associate Professor of Sociology
Doreen J. Mattingly, Ph.D., Associate Professor of Women's Studies
Aron T. Mayes, Ph.D., Associate Professor of Anthropology
Jeffrey S. McIlwain, Ph.D., Associate Professor of Public Affairs
Amy Schmitz Weiss, Ph.D., Associate Professor of Journalism and Media Studies
Katherine Elizabeth Swanson, Ph.D., Associate Professor of Geography
Madeline J. Baer, Ph.D., Assistant Professor of Political Science
Esperanza Camargo, Ph.D., Assistant Professor of Public Affairs (IVC)
Cheryl M. O'Brien, Ph.D., Assistant Professor of Political Science
Ricardo Vasconcelos, Ph.D., Assistant Professor of Spanish and Portuguese Languages and Literatures

Graduate Admissions
The following materials should be submitted as a complete package directly to:

Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416
(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;

NOTE:
• Students who attended SDSU need only submit transcripts for work completed since last attendance.
• Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

(2) GRE scores (http://www.ets.org SDSU institution code 4682);
(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

Master of Arts Degree in Latin American Studies
The following materials should be mailed or delivered to:
Center for Latin American Studies
(Attention: Graduate Adviser)
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-4446
(1) Personal statement;
(2) Three letters of reference.

Master of Business Administration Degree and Master of Arts Degree in Latin American Studies
The following materials should be submitted by November 1 (October 1 for international students) for admission for the spring semester and May 1 for the fall semester to:
Center for Latin American Studies
(Attention: Graduate Adviser)
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-4446
(1) Personal statement;
(2) Curriculum vitae or resume;
(3) Letters of reference (optional, maximum three).

Master of Public Administration Degree and Master of Arts Degree in Latin American Studies
The following materials should be mailed or delivered to:
Center for Latin American Studies
(Attention: Graduate Adviser)
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-6038
(1) Personal statement;
(2) Three letters of reference from individuals who have known the student’s academic performance (one letter may be from an individual who knows the employment performance of the student).
Master of Public Health Degree and Master of Arts Degree in Latin American Studies

Applicants seeking admission to the Master of Public Health and Master of Arts degree in Latin American Studies should contact the Graduate School of Public Health and request appropriate descriptive materials. Detailed application instructions can be obtained from our website at http://publichealth.sdsu.edu.

Students who do not fully meet the requirements for admission with classified graduate standing may be considered for conditionally classified graduate standing upon recommendation of the admissions committee and the graduate adviser.

Master of Arts Degree in Latin American Studies

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 Affairs, Sociology, Spanish and Portuguese Languages and Literatures, Women's Studies, and the Fowler College of Business. 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, 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 proverbs and popular culture, theatre, U.S.-Latin American relations, and the U.S.-Mexico border.

Admission to the Degree Curriculum

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 20 units required for the degree.

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy described in Part Four 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) complete Spanish 302 with a grade of B (3.0) or better, or (2) complete three units of 500-level or graduate coursework in Spanish with a grade of B (3.0) or better, or (3) pass the American Council on the Teaching of Foreign Languages (ACTFL) oral proficiency examination in Spanish with a score of 2.0 or above. In addition, students must complete either Portuguese 101 or one semester of an indigenous Latin American language (such as Mixtec, Náhuatl, or Zapotec) with a grade of B (3.0) or better. 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) (SIMS Code: 114301)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the Master of Arts degree, as described in Part Four of this bulletin, the student must complete at least 30 units of upper division and graduate coursework, including Latin American Studies 600 and 601, with not less than 24 units in courses of Latin American content selected from those listed below and distributed as follows:

| Department A | 6 units | 6 units |
| Department B | 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 and present their thesis research as an oral examination with all committee members present. Successful presentation of thesis research is a requirement for the degree. 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 Degree and Master of Arts Degree in Latin American Studies

General Information

The Fowler College of Business and the Center for Latin American Studies offer a three-year concurrent program study leading to a Master of Business Administration and a Master of Arts in 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 director of graduate programs in the Fowler College of Business.

Admission to the Degree Curriculum

Since this program combines disparate disciplines, applicants are required to submit GMAT or GRE 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. Students in the concurrent degree program are expected to be full time so that all requirements will be satisfied in an acceptable time.

Advancement to Candidacy

All students must meet the general requirements for advancement to candidacy as described in Part Four of this bulletin. In addition, (1) the student must complete with a grade of B (3.0) or better, either Spanish 302 (or its equivalent) or Portuguese 401 (or its equivalent), or three units of 500-level or graduate coursework in Spanish, or pass the American Council on the Teaching of Foreign Languages (ACTFL) oral proficiency examination in either Spanish or Portuguese with a score of 2.0 or above; (2) all core courses in business and Latin American studies must be completed prior to advancement in any core course; (3) the student must have been recommended for advancement by the combined advisory committee; (4) the student must have a thesis proposal approved by the combined faculty advisory committee.

Upon advancement to candidacy, the student will enroll in B A 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 M.B.A. and M.A. degrees.
Specific Requirements for the MBA/MA Degree (Major Code: 49061) (SIMS Code: 992001)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master’s degree as described in Part Four of this bulletin, the student must complete an officially approved course of study consisting of 63 units as outlined below.

1. The college expects students entering the Master of Business Administration and Master of Arts in Latin American Studies to be proficient in several areas. These include proficiency in statistics, mathematical skills, basic economics and in the use of personal computers, including spreadsheets and word processing. The students are responsible for insuring that they possess these skills before beginning the program.

2. Complete the following core of seven courses. (21 units):
   B A 623 Statistical Analysis (3)
   B A 624 Organizational Behavior and Leadership (3)
   B A 625 Financial and Management Accounting (3)
   B A 626 Business Economics (3)
   B A 627 Marketing (3)
   B A 628 Operations and Supply Chain Management (3)
   B A 629 Financial Management (3)

Subject to a limit of two courses, the requirement to complete individual core courses B A 623 to 629 may be waived by the director of graduate business programs if an equivalent course has been completed. Equivalency is determined by course content, institution at which course was taken, grade received, and time since course was taken. Current students are required to enroll in graduate courses and may not satisfy core course requirements by enrolling in undergraduate equivalency courses.

3. B A 630 Business Strategy (3)

4. Complete 15 units in Business Administration to include:
   FIN 654 Seminar in International Business Finance (3)
   MGT 710 Seminar in World Business Environment (3)
   MGT 723 Seminar in International Strategic Management (3)
   MGT 745 Seminar in Corporate Innovation and Entrepreneurship (3)
   MKTG 769 Seminar in International Marketing (3)

5. Complete 24 units in courses of Latin American content, including the following required courses:
   LATAM 600 Seminar in Latin American Studies (3)
   LATAM 601 Seminar on Methodology of Latin American Studies (3)

The remaining 18 units selected from the following list of courses:

Latin American Studies
   LATAM 550 Mexican-US Border from a Latin American Perspective (3)
   LATAM 580 Special Topics* (1-4)
   LATAM 696 Experimental Topics* (3)
   LATAM 750 Seminar: Study in Latin America (3)
   LATAM 795 Latin American Studies Internship (3) Cr/NC
   LATAM 797 Research (1-3) Cr/N/NC

Anthropology
   ANTH 520 Ethnographic Field Methods (3)
   ANTH 529 Urban Anthropology (3)
   ANTH 531 Methods in Applied Anthropology (3)
   ANTH 533 Race, Ethnicity, and Identity* (3)
   ANTH 582 Regional Anthropology* (3)
   ANTH 583 Topical Anthropology* (3)
   ANTH 605 Seminar in Applied Anthropology (3)

Economics
   ECON 565 North American Economic Relations (3)
   ECON 720 Seminar in Development and Planning* (3)

History
   HIST 550 Colonial Mexico (3)
   HIST 551 Modern Mexico (3)
   HIST 558 Latin America in World Affairs (3)
   HIST 580 Topics in the History of War and Violence* (3)
   HIST 640 Directed Readings in Latin American History (3)

Journalism and Media Studies
   JMS 574 International Advertising (3)
   JMS 701 Seminar: Mass Communication Problems (3)

Political Science
   POL S 562 Religion and Politics in Comparative Perspective (3)
   POL S 564 Political Ecology of Latin America (3)
   POL S 565 Nations and Nationalism (3)
   POL S 566 Political Change in Latin America (3)
   POL S 567 Political Systems of Latin America (3)
   POL S 568 Mexican Politics (3)
   POL S 661 Seminar in the Political Systems of the Developing Nations* (3)
   POL S 667 Seminar in Latin American Political Systems (3)

Portuguese
   PORT 535 Brazilian Literature (3)

Sociology
   SOC 522 The Family in Comparative and Cross-Cultural Perspectives (3)
   SOC 554 Sociology of the United States-Mexico Transborder Populations and Globalization (3)

Spanish
   SPAN 602 Foundations and Research Methods of Hispanic Linguistics (3)
   SPAN 606 Spanish American Literature: Independence to Present (3)
   SPAN 751 Seminar in Realism* (3)
   SPAN 752 Seminar in Literature and Culture of the Fin-de-Siècle (3)
   SPAN 760 Seminar in Reading in the Transatlantic Imaginary (3)

California Western School of Law

Students may take two courses from California Western School of Law with the approval of the Latin American Studies graduate adviser. Students must apply to enroll under the provisions of the affiliation agreement with the California Western School of Law.

* Acceptable when of relevant content; check with the Latin American Studies graduate adviser before enrolling. Students must apply to enroll under the provisions of the affiliation agreement with the California Western School of Law.

6. The student must complete MGT 797 (Research) or LATAM 797 (Research) in addition to B A 799A (Thesis). The thesis in business administration will treat a Latin American related topic and will be supervised by a business faculty with international business expertise and at least one faculty member from the Latin American studies 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.

Master of Public Administration Degree and Master of Arts Degree in Latin American Studies

General Information

The School of Public Affairs and the Center for Latin American Studies offer a concurrent graduate program leading to a Master of Public Administration and a Master of Arts in Latin American Studies. This concurrent degree program offers students preparation in the fields of public administration and Latin American studies for the purpose of public administration in fields requiring bi-national understanding of administration in the public sector.

If a student in the concurrent graduate program returns to a single degree program, none of the provisions of the concurrent degree program shall pertain. Transfer units will not be accepted towards the concurrent degrees, nor will previous graduate study or prior degrees be accepted toward meeting the unit requirements.

Admission to the Degree Curriculum

All students must satisfy the general requirements for admission to the university with classified graduate standing as described in Part Four of this bulletin. The successful applicant will also satisfy the requirements for both the Master of Public Administration and the Master of Arts in Latin American Studies. To be admitted to the program, students must have (1) a 3.0 grade point average in the undergraduate major and 2.85 overall and (2) an acceptable score on the Graduate Record Examination (GRE) General Test. Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee as described in Part Four of this bulletin.
Adancement to Candidacy

All students must meet the general requirements for advancement to candidacy as described in Part Four of this bulletin and be recommended by the graduate advisers of both programs. In addition, all students must (1) complete Public Administration 600 and three additional courses selected from Public Administration 604, 605 or 606, 630, 642, 650, 660; (2) complete Latin American Studies 600 and 601; (3) achieve a grade point average of 3.0 in these course with no grade below B-; (4) complete with a grade of B (3.0) or better, Spanish 202 or Portuguese 401, or their equivalents, or three units of 500-level or graduate coursework in Spanish, or pass the American Council of the Teaching of Foreign Languages (ACTFL) oral proficiency examination in either Spanish or Portuguese with a score of 2.0 or above; (5) demonstrate international experience in Latin America through an approved study abroad or an international internship experience, or successful completion of Latin American Studies 550, an approved study abroad experience course.

Specific Requirements for the MPA/MA Degree

(Major Code: 21020) (SIMS Code: 666905)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master’s degree as described in Part Four of this bulletin, the student must complete an officially approved course of study consisting of 54-66 units as outlined below.

1. Complete the following core of eight courses (24 units):
   - P A 600 Scope of Public Administration (3)
   - P A 604 Methods of Analysis in Public and Urban Affairs (3)
   - P A 630 Seminar in Public Personnel Administration (3)
   - P A 642 Seminar in Administrative Theory (3)
   - P A 650 Seminar in Public Financial Management (3)
   - P A 660 Administration and Public Policy Development (3)
   - LATAM 600 Seminar in Latin American Studies (3)
   - LATAM 601 Seminar on Methodology of Latin American Studies (3)

2. Complete one of the following courses (3 units):
   - P A 605 Seminar in Research Methods in Public Administration (3)
   - P A 606 Seminar in Quantitative Approaches to Public Administration (3)

3. Complete three courses in one theme listed below (9 units):

   - **City Planning Theme**
     - P A 525 The U.S. City Planning Process (3)
     - C P 630 Seminar in Urban Planning Implementation (3)
     - C P 640 Seminar in Urban Planning Theory (3)
     - C P 670 History of Urban Planning (3)
     - C P 690 Seminar in Land Use Planning Principles and Techniques (3)

   - **Criminal Justice Administration Theme**
     - C J 601 Seminar in the Administration of Criminal Justice (3)
     - C J 602 Seminar in Comparative Criminal Justice System (3)
     - C J 603 Seminar in Community and Restorative Justice (3)
     - C J 604 Seminar in Criminal Justice and Urban Administration (3)
     - C J 605 Seminar in Juvenile Justice and Youth Violence (3)

   - **Public Personnel and Labor Relations Theme**
     - P A 530 Negotiation and Bargaining in the Public Service (3)
     - P A 531 Governmental Employer-Employee Relations (3)
     - P A 632 Seminar of Organization Development in the Public Sector (3)
     - P A 643 Seminar in Administrative Behavior (3) (Offered only at IVC)

   - **Latin American Studies**
     - LATAM 540 History, Society, and Ecology of Baja Peninsula (3)
     - LATAM 550 Mexican-US Border from a Latin American Perspective (3)
     - LATAM 580 Special Topics* (3)
     - LATAM 750 Seminar: Study in Latin America (3)
     - LATAM 797 Research (3) Cr/NC/RP
     - LATAM 798 Special Study (3) Cr/NC/RP

4. Complete five courses from at least two departments (15 units):

   - **Latin American Studies**
     - LATAM 540 History, Society, and Ecology of Baja Peninsula (3)
     - LATAM 550 Mexican-US Border from a Latin American Perspective (3)
     - LATAM 580 Special Topics* (3)
     - LATAM 750 Seminar: Study in Latin America (3)
     - LATAM 797 Research (3) Cr/NC/RP
     - LATAM 798 Special Study (3) Cr/NC/RP

   - **Anthropology**
     - ANTH 520 Ethnographic Field Methods (3)
     - ANTH 529 Urban Anthropology (3)
     - ANTH 531 Methods in Applied Anthropology (3)
     - ANTH 533 Race, Ethnicity, and Identity* (3)
     - ANTH 582 Regional Anthropology* (3)
     - ANTH 583 Topical Anthropology* (3)
     - ANTH 605 Seminar in Applied Anthropology (3)

   - **Economics**
     - ECON 565 North American Economic Relations (3)
     - ECON 600-level or above; may include related elective:
       - ECON 561 International Trade (3) or ECON 592 International Monetary Theory and Policy (3)

   - **Geography**
     - GEOG 506 Landscape Ecology* (3)
     - GEOG 573 Population and the Environment* (3)
     - GEOG 574 Water Resources* (3)

   - **History**
     - HIST 550 Colonial Mexico (3)
     - HIST 551 Modern Mexico (3)
     - HIST 558 Latin America in World Affairs (3)
     - HIST 580 Topics in the History of War and Violence* (3)
     - HIST 640 Directed Readings in Latin American History (3)

   - **Political Science**
     - POL S 562 Religion and Politics in Comparative Perspective (3)
     - POL S 564 Political Ecology of Latin America (3)
     - POL S 565 Nations and Nationalism (3)
     - POL S 566 Political Change in Latin America (3)
     - POL S 567 Political Systems of Latin America (3)
     - POL S 568 Mexican Politics (3)
     - POL S 661 Seminar in the Political Systems of the Developing Nations* (3)
     - POL S 667 Seminar in Latin American Political Systems (3)

   - **Portuguese**
     - PORT 535 Brazilian Literature (3)

   - **Sociology**
     - SOC 522 The Family in Comparative and Cross-Cultural Perspectives (3)
     - SOC 554 Sociology of the United States-Mexico Transborder Populations and Globalization (3)

   - **Spanish**
     - SPAN 602 Foundations and Research Methods of Hispanic Linguistics (3)
     - SPAN 606 Spanish American Literature: Independence to Present (3)
     - SPAN 751 Seminar in Realism* (3)
     - SPAN 752 Seminar in Literature and Culture of the Film de-Sidére (3)
     - SPAN 760 Seminar in Reading in the Transatlantic Imaginary (3)

* Acceptable when of relevant content; check with the Latin American Studies graduate adviser before enrolling.
5. Students must complete P A 799A or LATAM 799A or P A 797 or LATAM 797 (3 units). The thesis (P A 799A or LATAM 799A) must treat a Latin American related topic in public administration and will be supervised by at least one public administration faculty and at least one member of the Latin American studies faculty. A culminating research experience (P A 797 or LATAM 797) must incorporate field research or an internship, and must result in a project that is approved by the graduate advisers in both programs.

6. An internship of 12 units (one semester) beyond the coursework is required of students who have not had equivalent experience. Students should consult with the public administration graduate adviser before enrolling.

7. Students must pass the American Council of Teachers of Foreign Language (ACTFL) oral proficiency examination in either Spanish or Portuguese with a score of 2.0 or above.

Master of Public Health Degree and Master of Arts Degree in Latin American Studies

General Information
The Graduate School of Public Health (GSPH) and the Center for Latin American Studies offer a concurrent graduate program leading to a Master of Public Health (MPH) in Epidemiology, Environmental Health, or Health Promotion and Behavioral Science and a Master of Arts (MA) in Latin American Studies. This concurrent program offers preparation in the fields of public health and Latin American studies for the purpose of promoting health, preventing disease, and enhancing the delivery of social and health services in Latino communities.

Admission to the Degree Curriculum
To request information about the concurrent graduate program in Public Health and Latin American Studies, applicants should contact either the Graduate School of Public Health Director of the MPH/MA program, or the Latin American Studies Director of the M.A. program, San Diego State University. Students must meet the general requirements to graduate study at the university as detailed in Part Two of this bulletin. Application materials are also available from the GSPH website at http://publichealth.sdsu.edu or the Center for Latin American Studies website at http://latinamericanstudies.sdsu.edu.

Advancement to Candidacy
All students must: (1) meet the general requirements for advancement to candidacy as described in Part Four of this bulletin; (2) pass an evaluation of progress towards the concurrent degree by both GSPH and Latin American Studies advisers; (3) complete all core courses in Public Health and Latin American Studies; (4) have earned at least 24 units of graduate study within the concurrent program with a minimum grade point average of 3.0 and no grade less than a B- in each core course; (5) complete with a grade of B (3.0) or better, Spanish 302 or Portuguese 401, or three units of 500-level or graduate coursework in Spanish, or pass the American Council on the Teaching of Foreign Language (ACTFL) oral proficiency examination in either Spanish or Portuguese with a score of 2.0 or above; (6) have been recommended for advancement by the combined faculty advisory committee; (7) have an approved concurrent program of study; and (8) have a thesis proposal approved by the combined faculty advisory committee, which must include at least one faculty member from Latin American Studies and one faculty member from Public Health.

Upon advancement to candidacy, the student will enroll in Public Health or Latin American Studies 797 (Research) and Public Health or Latin American Studies 799A (Thesis). All students in the concurrent degree program are required to complete a thesis. This thesis will incorporate theory, method, and analytic techniques from both Public Health and Latin American Studies. The thesis topic and chair will be determined by the student and the faculty advisory committee.
Specific Requirements for the MPH/MA Degree

(Major Code: 49062) (SIMS Code: 997310)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Four of this bulletin, the student must complete an officially approved course of study of not less than 63 units as listed below.

### General Requirements

Total General Units = 39

<table>
<thead>
<tr>
<th>Core Courses (18 units)</th>
<th>Prescribed Electives (15 units from at least two departments)</th>
<th>Culminating Experience (6 units)</th>
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<tr>
<td>LATAM 600 (3)</td>
<td>LATAM 550 (3) ANTH 583 (3)* POL S 562 (3) SOC 554 (3) P H 797 or LATAM 797 (3)</td>
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<td>LATAM 580 (3)* ANTH 603 (3) POL S 564 (3) SOC 730 (3)* P H 799A or LATAM 799A (3)</td>
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<td>ANTH 582 (3)*</td>
<td>ANTH 582 (3)* POL S 555 (3) SOC 522 (3)*</td>
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</tbody>
</table>

### Public Health Concentration Requirements

Total Units = 24

(Students must complete one of the following concentrations)

#### Epidemiology Concentration

(SIMS Code: 997311)

Total Epidemiology Units = 24

Required Courses (15 units)

- P H 603 (3)
- P H 621 (3)
- P H 622 (3)
- P H 623 (3)
- P H 627 (3)

Prescribed Electives (6 units)

- P H 625 (3)
- P H 626 (3)
- P H 628 (3)
- P H 649 (3)
- P H 700A (3)

Electives (3 units)

- BIOL 585, NUTR 600, 607, 700, STAT 510, 550, 551A, 560, 672, 677, or three units of electives to be selected with approval of the faculty advisory committee.

#### Health Promotion and Behavioral Science Concentration

(SIMS Code: 997314)

Total Health Promotion and Behavioral Science Units = 24

Required Courses (15 units)

- P H 607 (3)
- P H 661 (3)
- P H 662 (3)
- P H 663 (3)
- P H 666 (3)

Prescribed Electives (6 units)

- P H 664 (3)
- P H 667 (3)
- P H 668 (3)
- P H 700F (3)
- P H 762 (3)

Electives (3 units)

Three units to be selected with the approval of the faculty advisory committee.

#### Environmental Health Concentration

(SIMS Code: 997313)

Total Environmental Health Units = 24

Required Courses (21 units)

- P H 603 (3)
- P H 632 (3)
- P H 634 (3)
- P H 636 (3)
- P H 638A (3)
- P H 639 (3)
- P H 650R (3) Cr/NC

Prescribed Electives (at least 3 units)

- P H 630 (3)
- P H 700D (3)
- P H 784 (3)
- P H 798 (1-6) Cr/NC/RP

* Acceptable when of relevant content; check with the Latin American Studies graduate adviser before enrolling.
Courses Acceptable for Master's Degree Programs in Latin American Studies (LATAM)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

LATAM 545. The Latin American City (3)
Prerequisite: Upper division or graduate standing in Latin American studies, anthropology, Chicana and Chicano studies, history, political science, or sociology.
History and theory of urbanization in Latin America to include urban landscapes, rural to urban migrations, re-creation of community within urban centers, modified identities, globalized labor, segregation, and community borders.

LATAM 550. Mexican-US Border from a Latin American Perspective (3)
Prerequisites: Six upper division units with Latin American content. Spanish proficiency.
Multidisciplinary analysis of Mexican-US border region.

LATAM 580. Special Topics (1-4)
Prerequisites: 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 new content. See Class Schedule for specific content. Maximum credit eight units.

Anthropology Courses (ANTH)

ANTH 508. Medical Anthropology (3)
ANTH 520. Ethnographic Field Methods (3)
ANTH 529. Urban Anthropology (3)
ANTH 531. Methods in Applied Anthropology (3)
ANTH 533. Race, Ethnicity, and Identity* (3)
ANTH 540. Contemporary Cultures of Mesoamerica (3)
ANTH 582. Regional Anthropology (3)*
ANTH 583. Topical Anthropology (3)*

Art Courses (ART)

ART 561. Mesoamerican Art: Olmecs to Aztecs (3)
ART 563. Modern Mexican Art (3)
ART 571A. Modern Art of Latin America (3)
ART 571B. Contemporary Art of Latin America (3)
ART 593. History and Methodology of Art History* (3)
ART 596. Advanced Studies in Art and Art History (1-4)*

Communication Course (COMM)

COMM 596. Selected Topics (1-4)*

Comparative Literature Courses (C LT)

C LT 594. Topics in Literature and the Arts (3)
C LT 596. Topics in Comparative Literature (3)*

Economics Courses (ECON)

ECON 561. International Trade (3)
ECON 596. Experimental Topics (3)

Geography Courses (GEOG)

GEOG 506. Landscape Ecology* (3)
GEOG 507. Geography of Natural Vegetation (3)
GEOG 509. Regional Climatology (3)
GEOG 554. World Cities: Comparative Approaches to Urbanization (3)
GEOG 573. Population and the Environment* (3)
GEOG 574. Water Resources* (3)
GEOG 596. Advanced Topics in Geography (1-3)*

History Courses (HIST)

HIST 550. Colonial Mexico (3)
HIST 551. Modern Mexico (3)
HIST 558. Latin America in World Affairs (3)
HIST 580. Topics in the History of War and Violence (3)
HIST 596. Selected Studies in History (1-4)*

Journalism and Media Studies Courses (JMS)

JMS 574. International Advertising* (3)
JMS 591. Global Technology; Creativity and Innovation in the Digital Age (3)

Law

With the permission of the graduate adviser and the approval of the Division of Graduate Affairs, 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 (POL S)

POL S 531. Interest Groups and Political Movements (3)
POL S 555. Comparative Political Systems (3)
POL S 560. Comparative Public Policy (3)
POL S 562. Religion and Politics in Comparative Perspective (3)
POL S 564. Political Ecology of Latin America (3)
POL S 565. Nations and Nationalism (3)
POL S 566. Political Change in Latin America (3)
POL S 567. Political Systems of Latin America (3)
POL S 568. Mexican Politics (3)
POL S 577. Politics of International Law (3)

Portuguese Course (PORT)

PORT 535. Brazilian Literature (3)

Sociology Courses (SOC)

SOC 522. The Family in Comparative and Cross-Cultural Perspectives (3)
SOC 554. Sociology of the United States-Mexico Transborder Populations and Globalization (3)
SOC 596. Current Topics in Sociology (1-3)*

Spanish Courses (SPAN)

SPAN 502. Genre Studies in Spanish American Literature (3)
SPAN 515. Mexican Literature (3)
SPAN 596. Selected Studies in Spanish (3)*

Women's Studies Courses (WMNST)

WMNST 512. Latinas in the Americas (3)
WMNST 515. Women: Myth, Ritual, and the Sacred (3)
WMNST 530. Women's Movements and Activism* (3)
WMNST 565. Women: Health, Healing, and Medicine (3)
WMNST 580. Women, Development, and the Global Economy (3)
WMNST 581. Women's Experiences of Migration* (3)
WMNST 596. Topics in Women's Studies (3)*

* Acceptable when of relevant content.

GRADUATE COURSES

LATAM 600. Seminar in Latin American Studies (3)
Prerequisite: Graduate standing.

LATAM 601. Seminar on Methodology of Latin American Studies (3)
Prerequisite: Graduate standing.

LATAM 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.
LATAM 750. Seminar: Study in Latin America (3)
Prerequisites: Graduate standing and acceptance into COLEF/SDSU Exchange program or other relevant exchange program with partner university in Latin America.
Selected topics seminar in Latin American studies. Students will be required to attend classes at a partner university in Latin America. May be repeated with new content. Maximum credit six units applicable to a master's degree.

LATAM 796. Latin American Studies Internship (3) Cr/NC
Prerequisites: Latin American Studies 601 and consent of instructor. A 160-hour internship approved by instructor in public and private agency.

LATAM 797. Research (1-3) Cr/NC/RP
Prerequisite: Consent of graduate adviser. Research in one of the fields of Latin American studies. Maximum credit six units applicable to a master's degree.

LATAM 798. Special Study (1-3) Cr/NC/RP
Prerequisites: Consent of staff, to be arranged with the director and instructor. Individual study. Maximum credit six units applicable to a master's degree.

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

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

Anthropology Courses (ANTH)

ANTH 600. Seminar (3)*
ANTH 602. Seminar in Archaeology (3)
ANTH 603. Seminar in Ethnology (3)
ANTH 605. Seminar in Applied Anthropology (3)
ANTH 621. Seminar in Topical Anthropology (3)
ANTH 797. Research (3) Cr/NC/RP
ANTH 798. Special Study (1-3) Cr/NC/RP

Art Courses (ART)

ART 760. Seminar in Twentieth Century Art (3)
ART 798. Special Study (1-3) Cr/NC/RP

City Planning Course (C P)

C P 670. History of Urban Planning (3)

Communication Course (COMM)

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

Economics Courses (ECON)

ECON 696. Experimental Topics (3)*
ECON 700. Seminar in Microeconomic Applications (3)*
ECON 720. Seminar in Development and Planning* (3)
ECON 730. Seminar in Macroeconomic Policy (3)
ECON 750. Seminar in History of Economic Thought (3)*
ECON 797. Research (3) Cr/NC/RP
ECON 798. Special Study (1-3) Cr/NC/RP

English Courses (ENGL)

ENGL 604. Seminar: Literary Period or Movement (3)*
ENGL 606. Seminar: A Literary Type (3)*
ENGL 626. Comparative Literature (3)*
ENGL 696. Special Topics (3)*
ENGL 700. Seminar: A Major Author or Authors (3)*
ENGL 726. Seminar: Issues in Comparative Literature (3)*
ENGL 798. Special Study (1-3) Cr/NC/RP

Geography Courses (GEOG)

GEOG 696. Advanced Special Topics in Geography (3)*
GEOG 740. Seminar in Human Geography (3)*
GEOG 760. Seminar in Behavioral and Social Geography (3)*
GEOG 797. Research (1-3) Cr/NC/RP
GEOG 798. Special Study (1-3) Cr/NC/RP

History Courses (HIST)

HIST 640. Directed Readings in Latin American History (3)
HIST 795. Area Studies in History (3) Cr/NC*
HIST 797. Research (3) Cr/NC/RP
HIST 798. Special Study (1-3) Cr/NC/RP

Journalism and Media Studies Course (JMS)

JMS 701. Seminar: Mass Communication Problems* (3)

Political Science Courses (POL S)

POL S 655. Seminar in General Comparative Political Systems (3)*
POL S 661. Seminar in the Political Systems of the Developing Nations (3)*
POL S 667. Seminar in Latin American Political Systems (3)
POL S 675. Seminar in International Relations (3)*
POL S 795. Problem Analysis (3)*
POL S 797. Research in Political Science (3) Cr/NC/RP
POL S 798. Special Study (1-3) Cr/NC/RP

Public Administration Course (P A)

P A 798. Special Study (1-3) Cr/NC/RP

Sociology Courses (SOC)

SOC 696. Experimental Topics (3)*
SOC 730. Seminar in Social Institutions (3)
SOC 798. Special Study (1-3) Cr/NC/RP

Spanish Courses (SPAN)

SPAN 601. Seminar in Hispanic Literary Theory (3)
SPAN 602. Foundations and Research Methods of Hispanic Linguistics (3)
SPAN 606. Seminar in Spanish American Literature: Independence to Present (3)
SPAN 696. Selected Topics (3)*
SPAN 750. Seminar in Spanish American Literature (3)
SPAN 751. Seminar in Realism* (3)
SPAN 752. Seminar in Literature and Culture of the Fin-de-Siécle (3)
SPAN 755. Seminar in Spanish American Culture, Film, and Society (3)
SPAN 760. Seminar in Reading in the Transatlantic Imaginary (3)
SPAN 770. Applied Spanish Linguistics for Teachers (3)
SPAN 798. Special Study (1-3) Cr/NC/RP

Television, Film and New Media Course (TFM)

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

Women's Studies Courses (WMNST)

WMNST 601. Foundations of Feminist Scholarship (3)
WMNST 602. Seminar: Methods of Inquiry in Women's Studies (3)
WMNST 603. Seminar: Advanced Feminist Theory (3)
WMNST 604. Seminar: Gender, Culture, and Representation (3)
WMNST 605. Seminar: Women and Social Policy (3)
WMNST 609. Seminar: Transnational Issues and Gender* (3)
WMNST 696. Selected Topics in Women's Studies (3-6)*
WMNST 798. Special Study (1-3) Cr/NC/RP

* Acceptable when of relevant content.
Learning Design and Technology

In the School of Journalism and Media Studies
In the College of Professional Studies and Fine Arts

Faculty
Marcie J. Bober-Michel, Ph.D., Professor of Learning Design and Technology, Area Coordinator (Graduate Adviser)
Bernard J. Dodge, Ph.D., Professor of Learning Design and Technology
Minjuan Wang, Ph.D., Professor of Learning Design and Technology

General Information
Learning Design and Technology offers graduate study leading to a Master of Arts degree in education with a concentration in learning design and technology. The concentration enables students to prepare for careers as performance technologists, instructional designers, corporate trainers, and elearning practitioners. 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 to include video, multimedia, print and online materials. For further information, contact the area coordinator of learning design and technology.

Admission to Graduate Study
Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.
All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the School of Journalism and Media Studies (refer to the appropriate degree section for the address to submit additional information).

Graduate Admissions
The following materials should be submitted as a complete package directly to:
Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;
NOTE:
• Students who attended SDSU need only submit transcripts for work completed since last attendance.
• Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.
(2) GRE scores (http://www.ets.org SDSU institution code 4682);
(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

Learning Design and Technology
Complete the program application via DecisionDesk, http://gra.sdsu.edu/decisiondesk/
See http://jms.sdsu.edu/index.php/admissions/ldt_admissions_requirements for details.

Master of Arts Degree in Education

Admission to the Degree Curriculum
Applicants 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 Four of this bulletin.

Specific Requirements for the Master of Arts Degree
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 Four of this bulletin. Students must also meet the requirements as described below. Courses common to the concentration are Learning Design and Technology 690 and Plan A, which requires Education 799A, or Plan B, in which three options are available, Education 791A (3 units) and 791B (1 unit); or Education 791A (3 units) and 791B (3 units); or Education 795A (3 units) and 795B (3 units). All candidates for the Master of Arts degree in education who elect Plan B must pass a comprehensive examination.

The Comprehensive Examination
This written examination, designed to evaluate achievement in the 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 during the semester in which students are enrolled in Education 795B. For information on examination dates, contact the area coordinator of learning design and technology.

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 an 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 master’s degree faculty adviser.

Course Requirements
Students should consult with the master’s degree adviser prior to taking coursework leading to the Master of Arts degree.
Learning Design and Technology

Concentration in Learning Design and Technology  
(Major Code: 08992) (SIMS Code: 664642)
Course requirements for the concentration include:
1. LDT 690 Research Methods for Learning Design (3)
2. Core program (6 units)
   LDT 540 Educational Technology (3)
   LDT 544 Instructional Design (3)
3. Electives (15-18 units): 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. Research (3-6 units)
   ED 791A Evaluation Techniques (3) AND
   ED 791B Practicum: Evaluation (1-3)
   OR
   ED 795A Seminar (3) AND
   ED 795B Seminar (3)
   OR
   ED 799A Thesis (3 units) Cr/NC/RP

Specialization in Educational Computing within Learning Design and Technology Concentration  
(Major Code: 08992) (SIMS Code: 664643)
Students specializing in educational computing must include Learning Design and Technology 544 and 572 in their program of study. Recommended electives to be approved by the program adviser include Learning Design and Technology 561, 596, 670, 671, 684, 775, and Special Education 650. The specialization prerequisite is Learning Design and Technology 540.

Specialization in Workforce Education and Lifelong Learning  
(Major Code: 08992) (SIMS Code: 664644)
This specialization will allow students to prepare themselves as professionals who will focus on the development of education and training programs for youth and adults who are traditionally undereducated, non-college educated and who work in non-management jobs.
Students specializing in Workforce Education and Lifelong Learning pursue the following program: The prerequisite is Learning Design and Technology 540. Learning Design and Technology 544 is a required course to be included in the core. Recommended electives to be approved by the program adviser may include: Learning Design and Technology 572, 640, 650, 670, 684, 685; Administration, Rehabilitation and Postsecondary Education 631, 730, 747; Dual Language and English Learner Education 601; Teacher Education 631, 639.

Distance Education Certificate  
(SIMS Code: 664603)
This certificate program will provide necessary skills to in-service managers, instructors, instructional designers, evaluators, local site coordinators, and other professionals working in distance education systems and programs in higher education, K-12, business, and government, including personnel in law enforcement, and the military. Students who complete the certificate program and meet all other criteria may apply to be admitted to the M.A. program in learning design and technology. For application or further information, see the program adviser in Learning Design and Technology.
Prerequisites: A bachelor's degree from an accredited institution with a grade point average of at least 2.85 (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 (combined score of 950). At least three years of experience in distance, open or extended education, training, HRD or a related field. Mastery in telecommuting and learning new information technology applications.
Required courses (9 units):
LDT 640 Psychology of Technology-Based Learning (3)
LDT 650 eLearning Design and Development (3)
LDT 684 Managing the Learning Design Process (3)
Electives: (3 units) to be selected from the following with approval of program adviser:
LDT 544 Instructional Design (3)
LDT 670 Learning Through Games and Simulations (3)
LDT 671 Learning Environment Design (3)
LDT 685 Performance Technology for Organizations (3)
LDT 700 Seminar in Learning Design and Technology: Best Practices in Distance Education (1)
LDT 700 Seminar in Learning Design and Technology: Cybergogy and Engaged Learning (1)
LDT 700 Seminar in Learning Design and Technology: Management Issues in Distance Education (1)

Instructional Design Certificate  
(SIMS Code: 664602)
The purpose of this certificate is to prepare specialists who can develop or assist in the development of 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 Learning Design and Technology.
Prerequisites: A bachelor's degree from an accredited institution with a grade point average of at least 2.85 (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 (6 units):
LDT 540 Educational Technology (3)
LDT 544 Instructional Design (3)
Elective courses: Twelve units at the 600- or 700-level to be selected with the approval of the program director.

Instructional Technology Certificate
Refer to General Catalog.

Courses Acceptable for Master's Degree Program in Education (LDT)
Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES
LDT 515 Games, Play, and Learning (3)
Prerequisite: Upper division or graduate standing.
LDT 525 Virtual Reality, Imaginary Worlds, and Future of Learning (3)
Prerequisite: Upper division standing or admission to a graduate program in learning design and technology or journalism and media studies.
LDT 532. Producing Digital Learning Media (1-3)
Two hours of activity per unit.
Digital learning media production for professionals in health, law, science, business, publishing, and other settings. Use of web- and video-based technologies, presentation, and data analysis tools for training and education. Not open to students in learning design and technology master's concentration or certificate programs. (Formerly numbered Educational Technology 532.)

LDT 540. Educational Technology (3)
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. (Formerly numbered Educational Technology 540.)

LDT 541. Educational Web Development (3)
One lecture and six hours of laboratory.
Systems, graphic design, and usability principles applied to design and development of web-based educational multimedia. Planning and prototyping digital media. (Formerly numbered Educational Technology 541.)

LDT 544. Instructional Design (3)
One lecture and six hours of laboratory.
Systematic design of products for education and training. Use of analyses and content mapping to set instructional goals. Instructional methods derived from learning theories for use in schools, universities, corporations, and other settings. Rapid prototyping of instructional products. (Formerly numbered Educational Technology 544.)

LDT 561. Advanced Multimedia Design for Learning (3)
Six hours of activity.
Prerequisite: Learning Design and Technology 540.
Educational visualization with digital video, animation, sound, 2D and 3D graphics for mobile and web-based learning. (Formerly numbered Educational Technology 561.)

LDT 570. Advanced Teaching with Technologies (3)
Prerequisite: Learning Design and Technology 470 or equivalent work experience.
Design of project-based and problem-based learning using Internet resources. Constructivist learning with online databases, collaboration with distant classrooms and experts. (Formerly numbered Educational Technology 570.)

LDT 572. Managing the Technology-Rich Classroom (3)
One lecture and six hours of laboratory.
Prerequisite: Learning Design and Technology 540.
Use of technology to support planning, presenting, and managing instructor-led courses. Strategies for integrating audience response systems, collaborative tools, and social software into courses. (Formerly numbered Educational Technology 572.)

LDT 596. Topics in Learning Design and Technology (1-3)
Selected problems in educational technology. 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

LDT 630. Mobile Applications for Learning (3)
Two lectures and two hours of activity.
Prerequisites: Learning Design and Technology 540 and 541.

LDT 640. Psychology of Technology-Based Learning (3)
Six hours of activity.
Prerequisite: Learning Design and Technology 544.
Principles of human learning and cognition applied to design and use of technology-based learning systems. Development of research-based guidelines for designing educational products and services. (Formerly numbered Educational Technology 640.)

LDT 650. eLearning Design and Development (3)
Two lectures and three hours of laboratory.
Prerequisite: Learning Design and Technology 544. Recommended: Learning Design and Technology 572.
Theories and models of online learning at home, work, school, and university. Analysis, design, and development of e-learning courses and systems. Future societal and economic impacts of learning at a distance. (Formerly numbered Educational Technology 650.)

LDT 670. Learning Through Games and Simulations (3)
One lecture and six hours of laboratory.
Prerequisites: Learning Design and Technology 540 and 541.
Design, evaluation, and use of simulations and games for education and training. Instructional applications of role plays, board games, and multiplayer virtual worlds. Theories of motivation and interest. (Formerly numbered Educational Technology 670.)

LDT 671. Learning Environment Design (3)
One lecture and six hours of laboratory.
Prerequisites: Learning Design and Technology 544 and 561.
Design and development of individualized instruction delivered through e-learning; learning management systems; informal learning for corporate and museum education. (Formerly numbered Educational Technology 671.)

LDT 680. Evaluation Techniques for the Performance Technologist (3)
Two lectures and two hours of activity.
Prerequisites: Learning Design and Technology 540. Recommended: Learning Design and Technology 690.
Design and use of tools to collect, analyze, and communicate data about learning and performance. (Formerly numbered Educational Technology 590 and 680.)

LDT 684. Managing the Learning Design Process (3)
Six hours of workshop and activities.
Prerequisite: Learning Design and Technology 540 and 541. Recommended: Learning Design and Technology 544.
Management of instructional design and performance interventions. Development of timelines, staffing plans, communication strategies, and budgets. (Formerly numbered Educational Technology 684.)

LDT 685. Performance Technology for Organizations (3)
Six hours of workshop and activities.
Prerequisites: Learning Design and Technology 540 and 541.
Organizational and informational systems that support instructional products and services. Individual, team, and organizational analyses. Incentives, feedback, coaching, job-aids, selection, knowledge management, and other performance improvement strategies. (Formerly numbered Educational Technology 685.)
LDT 690. Research Methods for Learning Design (3)
Two lectures and three hours of activity.
Prerequisite: Admission to the master's degree program.
Planning and executing research in learning design. Analyzing, interpreting, and reporting results to stakeholders.

LDT 696. Advanced Topics in Learning Design and Technology (1-3)
Prerequisite: Graduate standing.
Intensive study in specific areas of learning design and technology. May be repeated with new content. Maximum credit six units. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

LDT 700. Seminar in Learning Design and Technology (1-3)
Prerequisite: Learning Design and 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. (Formerly numbered Educational Technology 700.)

LDT 775. Directed Internship in Learning Design and Technology (2-6) Cr/NC
Prerequisite: Consent of staff; to be arranged with department chair.
Supervised internship in an educational or training setting. Application to take course must be made during preceding semester. (Formerly numbered Educational Technology 775.)

LDT 795. Capstone Seminar in Learning Design and Technology (3)
Prerequisites: Advancement to candidacy and Learning Design and Technology 690.
Learner and content analysis, needs assessment, and product design, development, and evaluation for authentic learning design and performance problems and opportunities.

LDT 798. Special Study (1-6) Cr/NC/RP
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. (Formerly numbered Educational Technology 798.)

LDT 799A. Thesis or Project (3) Cr/NC/RP
Prerequisite: Prior registration in Thesis or Project 799A with an assigned grade symbol of RP.
Preparation of a project or thesis for the master's degree. (Formerly numbered Educational Technology 799.)

LDT 799B. Thesis or Project Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis or Project 799A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP 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.
Lesbian, Gay, Bisexual, and Transgender Studies

Offered by the College of Arts and Letters

OFFICE: Arts and Letters 317
TELEPHONE: 619-594-6662

Faculty Committee for Lesbian, Gay, Bisexual, and Transgender

Esther D. Rothblum, Ph.D., Professor of Women's Studies, Director of Program (Graduate Adviser)
Edith J. Benkov, Ph.D., Professor of French, Emeritus
Susan E. Cayleff, Ph.D., Professor of Women's Studies [Senate Distinguished Professor]
Heather L. Cortiss, Ph.D., Professor of Public Health
Huma Ahmed Ghosh, Ph.D., Professor of Women's Studies
Juan M. Godoy Marquet, Ph.D., Professor of Spanish
Mathew S. Kuefler, Ph.D., Professor of History
Khaleel Mohammed, Ph.D., Professor of Religious Studies
Ronnee D. Schreiber, Ph.D., Professor of Political Science
Michael K. Borgstrom, Ph.D., Associate Professor of English
Jerel P. Calzo, Ph.D., Associate Professor of Public Health
Victoria C. González-Rivera, Ph.D., Associate Professor of Chicana and Chicano Studies
Kurt J. Lindemann, Ph.D., Associate Professor of Communication
Walter D. Penrose, Jr., Ph.D., Associate Professor of History
Allison A. Vaughn, Ph.D., Associate Professor of Psychology
Antwanisha V. Alameen-Shavers, Ph.D., Assistant Professor of Africana Studies
Pablo E. Ben, Ph.D., Assistant Professor of History
Aaron J. Blashill, Ph.D., Assistant Professor of Psychology
Marie E. Draz, Ph.D., Assistant Professor of Philosophy
Yetta Howard, Ph.D., Assistant Professor of English and Comparative Literature
Minjoeng Kim, Ph.D., Assistant Professor of Sociology
Arienne E. Miller, Ph.D., Assistant Professor of Counseling and School Psychology
Nathaniel S. Rodriguez, Ph.D., Assistant Professor of Journalism and Media Studies
Debra Ann Elliott, M.A., Lecturer in Sociology and Women's Studies

General Information

San Diego State University is one of the few institutions in the United States to offer an undergraduate major, minor, and advanced certificate in lesbian, gay, bisexual, and transgender (LGBT) studies. LGBT studies is an interdisciplinary program, not affiliated with any one department. Courses offered include LGBT literature, history of sexuality, media and sexuality, psychology of human sexual behavior, sexuality in modern society, valuing human diversity, and lesbian lives and cultures.

Lesbian, Gay, Bisexual, and Transgender Studies Advanced Certificate

(SIMS Code: 119507)

The advanced certificate in Lesbian, Gay, Bisexual, and Transgender (LGBT) Studies is open to matriculated students to advance their knowledge in sexual and gender identity, and increase understanding of the diverse cultural, historical, ethnic/racial, and contemporary experiences of people across sexualities. The focus is on the changing nature of same-sex desire, sexual behavior, and same-sex relationships from antiquity to the present. Courses focus on emerging LGBT subcultures and identities from a global perspective. Throughout the program of study, we will carefully consider the full range of genders, sexualities, races, ethnicities, classes, physical abilities, religions, and political persuasions that characterize current LGBT movements and communities.

Courses are designed to provide students with a comprehensive, integrated, and scholarly education. The certificate also exposes students to community service and activism via a large selection of internships.

A certificate in LGBT Studies prepares students for a large variety of careers. Students can work in LGBT non-profit agencies, law, local and national politics, health care settings, counseling centers, journalism, news media, theatre, film, fine arts, and education.

The advanced certificate requires 12 units to include Lesbian, Gay, Bisexual, and Transgender Studies 598: nine units from English 550, 625*; History 583*, 640*; Religious Studies 581*; Women's Studies 535, 540, 545, 606, 608, 610. A minimum of six units required at the 600- or 700-level. Additional courses are acceptable with approval of the adviser. Courses in the certificate program may be applied to a master's degree (if applicable) with approval of the adviser. For further information, contact the graduate adviser at 619-594-6662 or visit http://lgbt.sdsu.edu.

* With approval of adviser.

Course (LGBT)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

LGBT 596. Selected Topics in Lesbian, Gay, Bisexual, and Transgender Studies (1-3)
Prerequisite: Upper division or graduate standing.
Selected topics in lesbian, gay, bisexual, and transgender 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

LGBT 598. Lesbian, Gay, Bisexual, and Transgender Studies Internship (3) Cr/NC
Prerequisite: Lesbian, Gay, Bisexual, and Transgender Studies major or minor.
Lesbian, gay, bisexual, and transgender studies theories and scholarship to community service and activism. Internship includes 120 hours of work in local public and private agencies serving LGBT populations and working towards LGBT equality. Maximum credit six units.
The College of Arts and Letters offers a flexible multidisciplinary master’s degree in the liberal arts and sciences (MALAS). An alternative approach to traditional graduate education, this always-evolving program consists of coursework that crosses disciplinary boundaries as graduate students master artistic, diverse, innovative, intellectual, and/or scientific goals through individualized courses. MALAS is an M.A. program for all kinds of thinkers—while it caters to the intellectual desires of ambitious, new B.A. and B.S. recipients seeking full-time graduate study, it also serves the needs of national and international professionals and adult learners who seek to attend graduate school on a part-time basis. From explorations of the human condition to the social impacts of technology, the program focuses on issues central to the meaning and quality of our lives and the creation of sustainable, just, communities. In existence since 1987, MALAS is equally well suited to students who recently achieved the bachelor’s degree, students preparing for the Ph.D., professionals for whom the master’s degree may mean promotion or career advancement, and life-long learners in search of personal enrichment and intellectual community. We welcome and encourage applications from K-12 teachers, community activists, and policy makers.

MALAS draws upon SDSU faculty who are trained in disciplines but whose teaching and scholarship makes connections across disciplines. Interplays among the humanities, the social sciences, the natural sciences, and the arts are taken up in four required courses. These seminars seek to engage with contemporary life and construct positive futures but they also push the level of discourse to foundational questions of epistemology and philosophy. Particular attention is given to understanding the psychological, economic, and environmental consequences of globalization, and to the ways that human values are embodied in and transformed by modes of consumption, labor, and material culture. The four core courses act to ground and center five elective courses, selected by each student to customize a program that captures his or her interests.

### 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 seeking admission must: (1) have a grade point average of 3.0 or better on work completed during the last 60 units for the bachelor’s degree, (2) have an acceptable score on the GRE General Test (combined verbal and quantitative) (3) complete a statement of purpose essay, and (4) submit two letters of recommendation.

Students applying for admission should electronically submit the university application available at [http://www.calstate.edu/apply](http://www.calstate.edu/apply) along with the $55 application fee.

All applicants must submit admissions materials separately to SDSU Graduate Admissions and to Master of Arts in Liberal Arts and Sciences.

### Graduate Admissions

The following materials should be submitted as a complete package directly to:

**Graduate Admissions**

Enrollment Services

San Diego State University

San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;

NOTE:

- Students who attended SDSU need only submit transcripts for work completed since last attendance.
- Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

(2) GRE scores ([http://www.ets.org SDSU institution code 4682](http://www.ets.org SDSU institution code 4682));

(3) English language score, if medium of instruction was in a language other than English ([http://www.ets.org SDSU institution code 4682](http://www.ets.org SDSU institution code 4682)).
Master of Arts in Liberal Arts and Sciences

The following materials should be submitted by November 1 (October 1 for international students) for admission for the spring semester and May 1 for the fall semester to:

Master of Arts in Liberal Arts and Sciences
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-8137

(1) A statement of purpose essay (minimum of 500 words) outlining research interests and strongest talents. Highly ranked statements include references to how the MALAS program would fit into your future;

(2) Two letters of recommendation (one, at least, should be from a university professor familiar with your research, writing, or creative work). Letters of recommendation come directly to MALAS from the individuals writing the letter. Please ask your recommenders to use official letterhead when possible and to sign across the outside seal of their envelopes. Last minute applicants may arrange to have their letters of recommendation emailed directly to bnericci@mail.sdsu.edu;

(3) A two-page essay describing the best class and/or professor you had as an undergraduate or graduate student.

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy as described in Part Four 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 (MALAS 600A, 600B, 600C, 600D) and (2) have a thesis or project proposal which has received the approval of the Graduate Liberal Arts and Sciences Committee and its director.

Specific Requirements for the Master of Arts Degree in Liberal Arts and Sciences (Major Code: 49017) (SIMS Code: 114501)

In addition to meeting the basic requirements for the Master of Arts degree in Liberal Arts and Sciences as described in Part Four of this bulletin, the student must complete a graduate program of 30 units. Up to 15 units of coursework can be taken at the 500-level. The total program includes:

1. MALAS 601 (3).
2. MALAS 600A, 600B, 600C, or 600D in any combination (9 units). Each course may be repeated once with new content and, in excess of nine units, can be used for elective credit.
3. MALAS 799A (3): Thesis or Project, or MALAS 795 (3) Plan B, Comprehensive Examination.
4. 15 units of electives selected with approval of the MALAS director. Students may select either Plan A or Plan B in consultation with the MALAS director. In addition to meeting the distribution requirements given above, students electing Plan A must complete MALAS 799A (Thesis or Project). Students electing Plan B must complete MALAS 795 (Studies in the Liberal Arts and Sciences) and pass a written comprehensive examination in lieu of the thesis.

All programs must be approved by the MALAS director in consultation with the Graduate Liberal Arts and Sciences Committee.

Courses Acceptable for Master’s Degree Program in Liberal Arts and Sciences (MALAS)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

GRADUATE COURSES

MALAS 600. Interdisciplinary Study in Liberal Arts and Sciences (3-3-3-3)
Prerequisite: Graduate standing.
MALAS seminars are divided into four general areas with content that varies semester to semester. Each course may be repeated once with new content. See Class Schedule for specific content. Maximum credit six units for each of the following courses: MALAS 600A, 600B, 600C, 600D
A. Cultural Studies
B. Science and Society, Environmental Studies
C. Globalization, Technology, Future Studies
D. Media Studies, Fine Arts, Transformative Arts

MALAS 601. Seminar in Interdisciplinary Thinking (3)
Prerequisite: Graduate standing.
Nature of interdisciplinary thinking. Ways of knowing and schools of thought in multiple disciplines. Interdisciplinary methods to analyze social issues. See Class Schedule for specific content.

MALAS 795. Studies in Liberal Arts and Sciences (3) Cr/NC
Prerequisite: Graduate standing.
Preparation of a project or thesis for Master of Arts degree in Liberal Arts and Sciences.

MALAS 798. Special Study (3) Cr/NC/RP
Prerequisite: Graduate standing.
Individual study on a given topic through interdisciplinary perspectives.

MALAS 799A. Thesis or Project (3) Cr/NC/RP
Prerequisites: An officially appointed thesis committee and advancement to candidacy.
Preparation of a project or thesis for Master of Arts degree in Liberal Arts and Sciences.

MALAS 799B. Thesis or Project Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis or Project 799A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP in MALAS 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.

MALAS 799C. Comprehensive Examination Extension (0) Cr/NC
Prerequisite: Completion of or concurrent enrollment in degree program courses.
Registration required of students whose only requirement is completion of the comprehensive examination for the master’s degree. Registration in 799C limited to two semesters.
In the Department of Linguistics and Asian/Middle Eastern Languages
In the College of Arts and Letters

OFFICE: Storm Hall West 214
TELEPHONE: 619-594-5268 / FAX: 619-594-4877
http://linguistics.sdsu.edu

Faculty
Betty T. R. Samraj, Ph.D., Professor of Linguistics,
Chair of Department
Eniko Csomay, Ph.D., Professor of Linguistics
Jean Mark Gawron, Ph.D., Professor of Linguistics
Yoshiko Higurashi, Ph.D., Professor of Japanese
(Director, Japanese Language Program)
Jeffrey P. Kaplan, Ph.D., Professor of Linguistics, Emeritus
Robert P. Malouf, Ph.D., Professor of Linguistics
Deborah Poole, Ph.D., Professor of Linguistics, Emeritus
Ruey-Ruey Regina Wu, Ph.D., Professor of Linguistics and
Asian/Middle Eastern Languages
Zheng-sheng Zhang, Ph.D., Professor of Chinese
Gregory D. Keating, Ph.D., Associate Professor of Linguistics
(Graduate Adviser)
Ryu Kitajima, Ph.D., Associate Professor of Japanese
(Japanese Language Adviser)

Associateships
Graduate teaching associateships in linguistics are offered each
semester to a limited number of qualified students to teach introductory
linguistics and the composition courses for international students.

General Information
The Department of Linguistics and Asian/Middle Eastern Languages
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; 2) applied linguistics (TESOL), for students intending to
teach or design curriculum for ESL/EFL/ELD classrooms (including
community college and K-12 levels) or planning to pursue a doctorate
in applied linguistics. In addition to completing coursework for one of
the specializations, 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:

Eniko Csomay – Classroom discourse, corpus linguistics,
discourse analysis, language variation, research design and methods,
and teaching English as a Second Language.
Jean Mark Gawron – Computational linguistics (machine
translation, narrowing, parsing, pragmatic); semantics (anaphora,
comparatives, lexical semantics, quantification).
Yoshiko Higurashi – Accent and intonation, intercultural
communication, Japanese language teaching, speech pathology,
syllable structure, phonology.
Jeffrey P. Kaplan – Discourse-functional syntax, English
grammar, language and law, and pragmatics.
Gregory D. Keating – First, second, and heritage language
acquisition, sentence processing in monolingual and bilingual
speakers of Spanish and English.
Ryu Kitajima – Language assessment, second language
acquisition, teaching methodologies and language pedagogy.

Robert P. Malouf – Computational linguistics, machine learning,
morphology, syntax, and text analytics.
Deborah Poole – Classroom discourse analysis, ESL teaching
methods and materials, language/literacy socialization, and literacy
event connections of speech and writing.
Betty T. R. Samraj – Discourse analysis, English for specific
purposes, ESL methods and materials, genre analysis, systemic-
functional linguistics, and written academic discourse.
Ruey-Juane Regina Wu – Conversation analysis, functional
linguistics, language assessment, language pedagogy, pragmatics,
teaching methodologies, and teacher training.
Zheng-sheng Zhang – Chinese language (dialects, structure,
stylistics, writing system); language pedagogy, technology for
language teaching.

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
in linguistics or a related field that would demonstrate adequate
preparation for the program.

Students applying for admission should electronically submit
the university application available at http://www.calstate.edu/apply
along with the $55 application fee.

All applicants must submit admissions materials separately to
SDSU Graduate Admissions and to the Department of Linguistics and
Asian/Middle East Languages.

Graduate Admissions
The following materials should be submitted directly to:
Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all
postsecondary institutions attended;

NOTE:
• Students who attended SDSU need only submit
transcripts for work completed since last attendance.
• Students with international coursework must submit
both the official transcript and proof of degree. If
documents are in a language other than English, they
must be accompanied by a certified English translation.

(2) GRE scores (http://www.ets.org SDSU institution code 4682).
All students are required to submit GRE scores. The required
minimum scores in each section are 144 (quantitative),
153 (verbal), and 4.0 (writing);

(3) English language score, if medium of instruction was in
a language other than English (http://www.ets.org SDSU
institution code 4682). Students who have a B.A.
from a university where English is not the primary medium
of instruction are required to submit either TOEFL iBT or IELTS
scores. The required TOEFL iBT score is 90 or higher. The
required IELTS score is 7.0 or higher. Note that these scores
are higher than those required by the university.
Abstract and Reference Information

Linguistics Department of Linguistics and Asian/Middle Eastern Languages

The following admissions materials must be submitted electronically via DecisionDesk, http://gra.sdsu.edu/decisiondesk/

1. Statement of purpose (250 words) which demonstrates an understanding of the SDSU program and which shows interest in an area of research that is within the department's scope of expertise.

2. Names and e-mail addresses of two professors who can evaluate the applicant's academic potential for success in a rigorous M.A. program. Recommenders will receive an e-mail link to upload their letter of reference to DecisionDesk. Although we strongly encourage academic references, non-academic references (e.g., from employers) may be submitted if a significant amount of time has passed since earning the last degree.

A student who is deficient in any of the above requirements may be considered for conditional admission. A candidate may be required to complete specified courses or earn a minimum GPA within a specific time period in addition to completing the minimum 30 units required for the degree.

The fall semester graduate application (Cal State Apply online application) deadline is March 1. In order to ensure consideration, other application materials must be sent to the Office of Graduate Admissions (transcripts and test scores) and to the department (statement of purpose and recommendation letters) by April 1. Our program does not admit new students in the spring semester.

Advancement to Candidacy

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

Specific Requirements for the Master of Arts Degree

(Major Code: 15051) (SIMS Code: 114701; Applied TESOL - 114705)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the Master of Arts degree, as described in Part Four of this bulletin, the student must complete a graduate program of at least 30 units of 500-, 600-, and 700-level courses to include Linguistics 503, 795, and three units from the following: Linguistics 502, 551, 552. A prerequisite to Linguistics 502, 503, 551, and 552 is completion of Linguistics 501 or equivalent. A minimum of 15 units must be from 600- or 700-level courses. Linguistics 505 does not count toward unit requirements for the Master of Arts degree in linguistics.

Students selecting the General Linguistics specialization must complete Linguistics 652, 656, and at least six units from the following: Linguistics 650, 653, 655, and 657. 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.

With the approval of the graduate adviser, a maximum of six units selected from the following courses will be accepted for graduate credit in linguistics: Anthropology 604; Computer Science 550, 560, 562, 596 (when offered with computational linguistics content), 620, 696 (when offered with computational linguistics content), Rhetoric and Writing Studies 602; Spanish 581, 770; Speech, Language, and Hearing Sciences 790, 793.

In addition, with approval of the graduate adviser, a student must choose either a thesis (Plan A), or a written comprehensive examination (Plan B). 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 at the time of filing an official program of study.

Advanced Certificate in Teaching English as a Second or Foreign Language (TESL/TEFL) (SIMS Code: 114786)

The Department of Linguistics and Asian/Middle Eastern Languages offers a Basic and an Advanced Certificate in Teaching English as a Second or Foreign Language (TESL/TEFL). The Advanced Certificate requires Linguistics 652: two courses from Linguistics 650, 653, 655, and 657; and one course from Linguistics 530, 622, 651, 654, and 795 (when offered with applied linguistics content). Students must obtain a 3.0 GPA overall in the courses for the advanced certificate. The prerequisite for the Advanced Certificate is the Basic Certificate or its equivalent. A student's entire program comprising Basic and Advanced Certificates must include at least one course from Linguistics 430, 530, and 622. Under certain circumstances comparable courses taken at other institutions may count toward 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 for Master's Degree Program in Linguistics (LING)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

LING 501. Fundamentals of Linguistics (3)
Prerequisite: Upper division standing.
Principles of modern linguistics, with attention to English phonetics, phonology, morphology, syntax, semantics and pragmatics; universals and typology.

LING 502. Language in Mind and Society (3)
Prerequisite: Linguistics 501. Proof of completion of prerequisite required: Copy of transcript.

LING 505. Writing for Graduate Students (3)
Prerequisite: Conditional or classified admission to an SDSU graduate program or undergraduates with consent of instructor.
Conventions of scholarly writing appropriate for student papers, theses, or academic journal articles. Development of research questions and literature review as appropriate for students' disciplines. Revision of current or previous course papers according to disciplinary conventions.

LING 521. Phonology (3)
Prerequisite: Linguistics 420 or 501.
Principles of transformational-generative phonology.

LING 522. Syntax (3)
Prerequisite: Linguistics 420 or 501.
Principles of transformational-generative syntax.

LING 523. Morphology (3)
Prerequisite: Linguistics 420 or 501.
Theoretical principles of words structure, including inflection, derivation, and compounding; organization of the lexicon; structure of inflectional paradigms; morphophonological and morphosyntactic alternations; and computational applications.

LING 525. Semantics and Pragmatics (3)
Prerequisite: Linguistics 420 or 501.
Advanced semantic theory; systematic analysis of the interaction of sequences of language with real world context in which they are used.
LING 526. Discourse Analysis (3)
Prerequisite: Linguistics 420 or 501.
Theories of discourse structure. Text and context. Frameworks for analyzing written and spoken discourses such as genre analysis, conversational analysis, critical discourse analysis, discourse and grammar, speech act theory, and corpus linguistics. Applications of discourse analysis such as cross-cultural misunderstanding.

LING 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.

LING 550. Theory and Practice of English as a Second Language (3)
Prerequisite: Linguistics 101, 420, or 501.
The nature of language learning; evaluation of techniques and materials for the teaching of English as a second language.

LING 551. Sociolinguistics (3)
Prerequisite: A course in introductory linguistics.
Investigation of the correlation of social structure and linguistic behavior.

LING 552. Psycholinguistics (3)
Prerequisite: Linguistics 420 or 501.
Psychological and mental processes related to comprehension, production, perception, and acquisition of language in adults and children.

LING 555. Practical Issues in Teaching English as a Second Language (3)
Prerequisite: Credit or concurrent registration in Linguistics 550.
Practical approaches to applications of the theory of English as a Second Language (ESL) and methodology for teaching English grammar.

LING 556. Computer Assisted Language Learning and Teaching (3)
Prerequisite: Credit or concurrent registration in Linguistics 550.
Theory and practice of computer assisted language learning and teaching. Hands-on experience with pedagogical aspects of using technology in the language classroom.

LING 570. Mathematical Linguistics (3)
Prerequisite: Two linguistics courses.
Mathematical tools for linguistics: set theory; basic algebraic structures such as groups, lattices, and Boolean algebras; formal language theory; propositional and 1st-order logic. Some emphasis on proofs. Applications to linguistics.

LING 571. Computational Corpus Linguistics (3)
Prerequisite: Upper division standing.
Practical introduction to computer text corpora and to the Python programming language. Writing of Python programs required.

LING 572. Python Scripting for Social Science (3)
Prerequisite: Upper division or graduate standing

LING 581. Computational Linguistics (3)
(Same course as Computer Science 581)
Prerequisite: Linguistics 571 or 572 or Computer Science 320
Basic concepts in computational linguistics including regular expressions, finite-state automata, finite-state transducers, weighted finite-state automata, and n-gram language models. Applications to statistics, probabilistic models. Statistical techniques for speech recognition.

LING 583. Statistical Methods in Text Analysis (3)
Prerequisites: Linguistics 571 or 572; and Statistics 550 or 551A.
Statistical methods for analysis of large texts to include Bayesian classifiers, Markov models, maximum entropy models, neural nets, and support vector machines. Data collection and annotation. Applications to annotation, relation detection, sentiment analysis, and topic modeling.

LING 596. Selected Topics in Linguistics (1-3)
Prerequisite: Upper division standing.
Advanced study of selected topics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 496, 497, 596 courses applicable to a bachelor's degree. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

GRADUATE COURSES

LING 610. Topics in Historical Linguistics (3)
Prerequisite: Three upper division units in linguistics, preferably Linguistics 410, 501, or 521.
Methods and principles used in historical study of language; processes of language change in phonology, syntax, and semantics; linguistics reconstruction; origin of language; language families; development of writing. Analysis of Indo-European, Old English, or Middle English. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

LING 620. Advanced Formal Syntax (3)
Prerequisite: Linguistics 522.
Advanced study of formal syntactic theory.

LING 621. Advanced English Phonology (3)
Prerequisite: Linguistics 521.

LING 622. Discourse and Syntax (3)
Prerequisite: Linguistics 503, 522, or 530.
Functional and discourse-oriented approaches to syntax and syntactic approaches to discourse.

LING 623. Immigrant Languages (3)
Prerequisite: Linguistics 420 or 501.
Contrastive structure of selected languages representing significant immigrant populations in San Diego; emphasis on phonological, orthographic, morphological, lexical and syntactic features.

LING 626. Pragmatics (3)
Prerequisites: Linguistics 525 and six additional units of linguistics courses numbered 501 or higher (excluding Linguistics 505).
Gricean and neo-Gricean approaches to pragmatics; relevance theory; reference; presupposition; speech acts; information structure.

LING 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.

LING 650. Materials Development in Applied Linguistics (3)
Prerequisite: Linguistics 550.
Materials development and adaptation for teaching English as a second language and foreign language.

LING 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.

LING 652. Second Language Acquisition (3)
Prerequisite: Linguistics 501.
Analyses of theories of second language acquisition; theoretical and empirical bases of current second language teaching methodologies.

LING 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.

LING 654. Language and Cognition (3)
Prerequisite: Linguistics 552.
Language production, comprehension, and acquisition, as these relate to human cognition.
LING 655. English for Specific Purposes and Content-Based Instruction (3)
Prerequisite: Linguistics 550.
Theory, practice, and history of these two related approaches to ESL/EFL.

LING 656. Quantitative Research Methods in Language Studies (3)
Prerequisite: Linguistics 420 or 501.
Research design and quantitative research methods for linguistic applications. Critical evaluation of published research studies; empirical research project.

LING 657. Foundations of Language Assessment (3)
Prerequisite: Linguistics 550.
Fundamental principles and goals of language assessment and language assessment research: characteristics of assessment methods; analyzing test tasks; designing test items; describing test scores; approaches to estimating reliability; validity and validation; authenticity and impact.

LING 660. History of Linguistics (3)
Prerequisite: Two courses in linguistics or equivalent background.
Background and development of modern linguistic theory.

LING 696. Advanced Topics in Linguistics (1-3)
Prerequisite: Consent of instructor.
Advanced study in specific areas of linguistics. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

LING 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.

LING 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.

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

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

LING 799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP 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.

LING 799C. Comprehensive Examination Extension (0) Cr/NC
Prerequisite: Completion or concurrent enrollment in degree program courses.
Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.

Management, Management Information Systems, and Marketing
Refer to “Business Administration” in this section of the bulletin.
Mathematics
In the Department of Mathematics and Statistics
In the College of Sciences

OFFICE: Geology/Mathematics/Computer Science 413
TELEPHONE: 619-594-6191

Faculty
Michael E. O'Sullivan, Ph.D., Professor of Mathematics,
Chair of Department

Mathematics and Applications
Ricardo Carretero, Ph.D., Professor of Mathematics, Associate Chair
of Department (M.S. Dynamical Systems Graduate Adviser)
T. Marc Dunster, Ph.D., Professor of Mathematics,
Associate Chair of Department
Peter V. Blomgren, Ph.D., Professor of Mathematics
José E. Castillo, Ph.D., Professor of Mathematics
(M.S. Computational Science Graduate Adviser)
Stephen Y. Hui, Ph.D., Professor of Mathematics, Emeritus
J. Carmelo Interlando, Ph.D., Professor of Mathematics
(M.S. Communication Systems Graduate Adviser)
Joseph M. Mahaffy, Ph.D., Professor of Mathematics
(Ph.D. Mathematics Graduate Adviser)
Antonio Palacios, Ph.D., Professor of Mathematics
Vadim Poromarenko, Ph.D., Professor of Mathematics
(M.A. Mathematics Graduate Adviser)
Peter Salamon, Ph.D., Professor of Mathematics, Emeritus
Samuel S.P. Shen, Ph.D., Albert W. Johnson Distinguished
Professor of Mathematics
Stephen J. Kirschvink, Ph.D., Associate Professor of Mathematics
Bo-Wen Shen, Ph.D., Associate Professor of Mathematics
Christopher W. Curtis, Ph.D., Assistant Professor of Mathematics
José E. Castillo, Ph.D., Assistant Professor of Mathematics
Antoni Luque Santolaria, Ph.D., Assistant Professor of Mathematics

Mathematics Education
Chris L. Rasmussen, Ph.D., Professor of Mathematics,
Associate Chair of Department, Mathematics Education
Joanne Lobo, Ph.D., Professor of Mathematics
Janet S. Bowers, Ph.D., Associate Professor of Mathematics
Susan D. Nickerson, Ph.D., Associate Professor of Mathematics
(M.A.T.S. Graduate Adviser)
Daniel L. Reinholtz, Assistant Professor of Mathematics
William C. Zahner, Ph.D., Assistant Professor of Mathematics

Associateships
Graduate teaching associateships 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 Mathematics and Statistics 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 applied mathematics with a concentration in
mathematical theory of communications systems, and the Master of
Science degree in applied mathematics with a concentration in
dynamical systems. The department also offers the Master of Science
degree in statistics and the Master of Science degree in statistics
with a concentration in biostatistics (see the Statistics section of this
bulletin for a description of the statistics program and courses).

Faculty active in research direct theses and research projects in
most general areas of the mathematical sciences: in complex analysis,
differential equations, number theory, numerical analysis; in cognitive
science, computer education and problem solving within mathematics
education; in climate mathematics, computational mathematics, control
theory, dynamical systems, mathematics of communication, mathe-
matical physics, modeling and optimization within applied mathematics.

Opportunities for research in mathematics education are available
through research facilities in the Center for Research in Mathematics
and Science Education.

The department hires qualified graduate students as teaching
associates. These positions serve as an important stepping stone on
the path to a career in the teaching of mathematics at various levels.

Admission to Graduate Study
All students must satisfy the general requirements for admission to
the university with classified graduate standing, as described in Part
Two of this bulletin.

Students applying for admission should electronically submit
the university application available at http://www.calstate.edu/apply
along with the $55 application fee.

All applicants must submit admissions materials to SDSU
Graduate Admissions.

Graduate Admissions
The following materials should be submitted as a complete
package directly to:
Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary
institutions attended;
NOTE:
• Students who attended SDSU need only submit tran-
scripts for work completed since last attendance.
• Students with international coursework must submit both the
official transcript and proof of degree. If docu-
ments are in a language other than English, they must
be accompanied by a certified English translation.
(2) GRE scores (http://www.ets.org SDSU institution code 4682);
(3) English language score, if medium of instruction was in
a language other than English (http://www.ets.org
SDSU institution code 4682).

Advancement to Candidacy
All students must satisfy the general requirements for advancement
to candidacy as described in Part Four 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) (SIMS Code: 776301)

In addition to meeting the requirements for classified graduate
standing and the basic requirements for the master’s degree as
described in Part Four of this bulletin, the student must meet the
following requirements:

1. Complete 30 units of approved 500-, 600-, and 700- level cours-
es, of which at least 24 units must be in mathematics. 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. Before entering the program, students should have completed the
following courses or their equivalents: Mathematics 521A,
524, 532, and 534B. If a student has not completed these
courses before entering the program, he or she may be admit-
ted conditionally.

3. Among the 30 units of coursework, students must include
Mathematics 620; one course in analysis selected from 630A or
631A; and one course selected from Mathematics 621, 630B, or
631B.

4. Students must select Plan A and complete Mathematics 799A.
Students are advised that a thesis normally takes a year to
complete.
Specific Requirements for the Master of Science Degree in Applied Mathematics

(Major Code: 17031) (SIMS Code: 776314)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree described in Part Five 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, 537, 541; Statistics 551A. At most one of these courses can be counted towards the degree course requirements.

2. A minimum of 30 units of approved 500-, 600-, and 700-numbered courses. All programs must include at least 21 units in mathematical science (with the possible exception of a student whose main interest is mathematical modeling) and at least 18 units selected from 600- and 700-numbered courses.

3. The student must select Plan A and complete Mathematics 799A, Thesis. The student must also have an oral defense of their thesis or research, open to the public.

Concentration in Dynamical Systems

(Major Code: 17031) (SIMS Code: 776316)

This concentration focuses on interdisciplinary applications of dynamical systems and nonlinear modeling in biology, chemistry, engineering, and physics. Students with interests in modeling and analyzing real-life problems through mathematics will benefit from this concentration. To enter the program, students must possess a bachelor's degree with a strong mathematical background. In addition to completing the specific requirements for the Master of Science degree in applied mathematics, students pursuing this concentration will complete the following 15 units of core courses: Mathematics 531, 537, 538, 636, and 638; 12 units of electives and three units of Mathematics 799A (Thesis/Project). Possible electives include Mathematics 635 and 639 to be offered depending on demand and resources. Other recommended electives include Mathematics 542, 623, 668, 693A, 693B, 797; Computer Science 553; Physics 580. Depending on the student's interests and background, electives from other departments may be approved by the adviser.

Concentration in Mathematical Theory of Communication Systems

(Major Code: 17031) (SIMS Code: 776317)

This concentration focuses on the area of mathematics relevant to the transmitting and processing of information by digital or analog methods. In addition to meeting the requirements for classified standing in the Master of Science program in applied mathematics, students pursuing this concentration should also have completed Mathematics 521A or its equivalent before entering the program. Students must complete Mathematics 525, 626, 668, one course selected from Mathematics 625 or 667, and three courses selected from Mathematics 623, 627A, 627B, 630A-630B, 631A-631B. Two additional courses in mathematics or a related area may be selected with approval of the program adviser. Either Mathematics 797 (Research) or 799A (Thesis) are required of students in this degree program.

Communication Systems Certificate

(SIMS Code: 776347)

The Communication Systems Certificate provides mathematicians and engineers with the specialized training in the areas of coding, cryptography, and signal processing relevant for the understanding of modern communication systems. This certificate is designed for individuals who need the knowledge this certificate program provides to participate in projects in the area of communication systems and signal processing.

Courses Acceptable for Master's Degree Programs in Applied Mathematics, Mathematics, and Statistics (MATH)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour prerequisites, and related information.

UPPER DIVISION COURSES

MATH 509. Computers in Teaching Mathematics (3)
Two lectures and three hours of laboratory. Prerequisite: Mathematics 252 with a grade of C (2.0) or better.

Proof of completion of prerequisite required: Copy of transcript.

MATH 510. Introduction to the Foundations of Geometry (3)
Prerequisite: Mathematics 151 with a grade of C (2.0) or better.

Proof of completion of prerequisite required: Copy of transcript.

MATH 521A. Abstract Algebra (3)
Prerequisites: Mathematics 245 and 254 with a grade of C (2.0) or better in each course. Prerequisite: Finance 521 and 254 with a grade of C (2.0) or better in each course. Prerequisite: Mathematics 245 and 254 with a grade of C (2.0) or better in each course.

Proof of completion of prerequisites required: Copy of transcript.

MATH 521B. Abstract Algebra (3)
Prerequisites: Mathematics 521A with a grade of C (2.0) or better.

Proof of completion of prerequisite required: Copy of transcript.

MATH 522. Number Theory (3)
Prerequisite: Mathematics 245 with a grade of C (2.0) or better.

Proof of completion of prerequisite required: Copy of transcript.

MATH 523. Mathematical Logic (3)
Prerequisite: Mathematics 245 with a grade of C (2.0) or better.

Proof of completion of prerequisite required: Copy of transcript.

MATH 524. Linear Algebra (3)
Prerequisites: Mathematics 245 and either 254 or 342A with a grade of C (2.0) or better in each course. Prerequisite: Mathematics 524 and either 254 or 342A with a grade of C (2.0) or better in each course. Prerequisite: Mathematics 245 and either 254 or 342A with a grade of C (2.0) or better in each course.

Proof of completion of prerequisites required: Copy of transcript.

MATH 525. Algebraic Coding Theory (3)
Prerequisite: Mathematics 254 with a grade of C (2.0) or better.

Proof of completion of prerequisite required: Copy of transcript.

Linear codes, perfect and related codes, cyclic linear codes, BCH codes, burst error-correcting codes.

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MATH 531. Partial Differential Equations (3)
Prerequisites: Mathematics 252 and 337 with a grade of C (2.0) or better in each course. **Proof of completion of prerequisites required:** Copy of transcript.
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.

MATH 532. Functions of a Complex Variable (3)
Prerequisite: Mathematics 252 with a grade of C (2.0) or better.
**Proof of completion of prerequisite required:** Copy of transcript.
Analytic functions, Cauchy-Riemann equations, theorem of Cauchy, Laurent series, calculus of residues, and applications.

MATH 533. Vector Calculus (3)
Prerequisite: Mathematics 254 or 342A with a grade of C (2.0) or better. **Proof of completion of prerequisite required:** Copy of transcript.
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.

MATH 534A. Advanced Calculus I (3)
Prerequisites: Mathematics 245 and either 254 or 342A with a grade of C (2.0) or better in each course. **Proof of completion of prerequisites required:** Copy of transcript.
Completeness of the real numbers and its consequences, sequences of real numbers, continuity, differentiability and integrability of functions of one real variable.

MATH 534B. Advanced Calculus II (3)
Prerequisite: Mathematics 534A with a grade of C (2.0) or better. **Proof of completion of prerequisite required:** Copy of transcript.
Series and sequences of functions and their applications, functions of several variables and their continuity, differentiability and integrability properties.

MATH 537. Ordinary Differential Equations (3)
Prerequisite: Mathematics 337 with a grade of C (2.0) or better.
**Proof of completion of prerequisite required:** Copy of transcript.
Theory of ordinary differential equations: existence and uniqueness, dependence on initial conditions and parameters, linear systems, stability and asymptotic behavior, autonomous systems, series solutions at regular singular points.

MATH 538. Discrete Dynamical Systems and Chaos (3)
Prerequisites: Mathematics 151 and either 254 or 342B with a grade of C (2.0) or better in each course. **Proof of completion of prerequisites required:** Copy of transcript.
One- and two-dimensional iterated maps, equilibria and their stability, sensitive dependence on initial conditions, Lyapunov exponents, horseshoe maps, period doubling, chaotic attractors, Poincare maps, stable/unstable manifolds, bifurcations. Applications in biology, chemistry, physics, engineering, and other sciences.

MATH 541. Introduction to Numerical Analysis and Computing (3)
Prerequisites: Mathematics 254 or 342A; and either Mathematics 242 or Aerospace Engineering 280 or Computer Science 107 with a grade of C (2.0) or better in each course. **Proof of completion of prerequisites required:** Copy of transcript.
Solution of equations of one variable, polynomial interpolation and approximation, numerical differentiation and quadrature, linear least squares approximation, the fast Fourier transform.

MATH 542. Introduction to Computational Ordinary of Differential Equations (3)
Prerequisites: Mathematics 337 and 541 with a grade of C (2.0) or better in each course. **Proof of completion of prerequisites required:** Copy of transcript.

MATH 543. Numerical Matrix Analysis (3)
Prerequisite: Mathematics 541 with a grade of C (2.0) or better. **Proof of completion of prerequisite required:** Copy of transcript.

MATH 562. Mathematical Methods of Operations Research (3)
Prerequisites: Mathematics 252 and 254 with a grade of C (2.0) or better in each course. **Proof of completion of prerequisites required:** Copy of transcript.
Theory and applications concerned with optimization of linear and non-linear functions of several variables subject to constraints, including simplex algorithms, duality, applications to game theory, and descent algorithms.

MATH 579. Combinatorics (3)
Prerequisite: Mathematics 245 with a grade of C (2.0) or better. **Proof of completion of prerequisite required:** Copy of transcript.
Permutations, combinations, generating functions, recurrence relations, inclusion-exclusion counting. Polya’s theory of counting, other topics and applications.

MATH 596. Advanced Topics in Mathematics (1-4)
Prerequisite: Consent of instructor.
Selected topics in classical and modern mathematical sciences. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 396, 496 courses applicable to a bachelor’s degree. Maximum credit of six units of 596 applicable to a bachelor’s degree. Credit for 596 and 696 applicable to a master’s degree with approval of the graduate adviser.

**GRADUATE COURSES**

MATH 620. Groups, Rings, and Fields (3)
Prerequisite: Mathematics 521A, 522, 524, or 525 with a grade of C (2.0) or better. Group theory to include finite Abelian groups, isomorphism theorems, matrix groups, and permutation groups. Ring theory to include ideals, principal ideal domains, and unique factorization. Field theory to include field extensions and finite fields.

MATH 621. Topics in Advanced Algebra (3)
Prerequisite: Mathematics 620 with a grade of C (2.0) or better. Topics in advanced algebra. Typical courses to include algebra-geometry dictionary, commutative algebra, groups, fields, and Galois theory. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

MATH 623. Linear Algebra and Matrix Theory (3)
Prerequisite: Mathematics 524 with a grade of C (2.0) or better. Characteristic and minimal polynomials, Cayley-Hamilton theorem, canonical forms, hermitian matrices, Sylvester’s law, norms, singular values, stability, non-negative matrices.

MATH 625. Algebraic Coding Theory (3)
Prerequisites: Mathematics 525 and Mathematics 521B or 522 with a grade of C (2.0) or better in each course. Algebraic theory of error correction codes and decoding algorithms used in modern communications systems. Reed-Solomon codes and algebraic decoding algorithms. Code duality, MacWilliam’s identities and the linear programming bound. Probabilistic decoding of convolutional codes, low-density parity-check codes and turbo codes.

MATH 626. Cryptography (3)
Prerequisites: Mathematics 521A and 522 with a grade of C (2.0) or better in each course. Design of secure cryptosystems with applications. Classical and public key cryptosystems. Primality testing, factoring, discrete log problem, and knapsack problem.

MATH 627A. Modern Algebra I (3)
Prerequisite: Mathematics 521B with a grade of C (2.0) or better. Algebra theory, including isomorphism theorems, permutation groups, and simplicity of An, finite abelian groups, and Sylow theorems. Rings, ideals, principal ideal domains, and unique factorization.
MATH 627B. Modern Algebra II (3)
Prerequisite: Mathematics 627A with a grade of C (2.0) or better.
Modules and the Wedderburn-Artin theorem, field extensions, splitting fields, Galois theory, finite fields, the fundamental theorem of algebra.

MATH 630A-630B. Functions of a Real Variable (3-3)
Prerequisites: Mathematics 524 and 534B with a grade of C (2.0) or better in each course. Mathematics 630A is prerequisite to Mathematics 630B.
Lebesgue measure and integration, metric spaces, Hilbert spaces, spectral theory.

MATH 631A-631B. Functions of a Complex Variable (3-3)
Prerequisites: Mathematics 532 and 534B. Mathematics 631A is prerequisite to 631B.

MATH 635. Pattern Formation (3)
Prerequisites: Mathematics 337 or 531 and Mathematics 254 or 342A, 342B.

MATH 636. Mathematical Modeling (3)
Prerequisites: Mathematics 254 and 337 or Mathematics 342A and 342B or Aerospace Engineering 280 with a grade of C (2.0) or better in each course.
Advanced models from the physical, natural, and social sciences. Emphasis on classes of models and corresponding mathematical structures.

MATH 638. Continuous Dynamical Systems and Chaos (3)
Prerequisites: Mathematics 337 or 531 and Mathematics 254 or 342A, 342B with a grade of C (2.0) or better in each course.

MATH 639. Nonlinear Waves (3)
Prerequisite: Mathematics 531 or 537 with a grade of C (2.0) or better.

MATH 667. Mathematical Aspects of Systems Theory (3)
Prerequisites: Mathematics 524 and 537 with a grade of C (2.0) or better in each course.
Linear and nonlinear systems, nonlinear differential equations, equilibrium equations. Linearization, state transition matrix, stability theory, feedback control systems.

MATH 668. Applied Fourier Analysis (3)
Prerequisites: Mathematics 524, 534A; 532 or 534B with a grade of C (2.0) or better in each course.
Discrete and continuous Fourier transform methods with applications to statistics and communication systems.

MATH 693B. Advanced Numerical Methods: Computational Partial Differential Equations (3)
Prerequisites: Mathematics 531 and 541 with a grade of C (2.0) or better in each course.

MATH 696. Selected Topics in Mathematical Sciences (3)
Prerequisite: Graduate standing.
An intensive study in advanced mathematics. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

MATH 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.

MATH 790. Practicum in Teaching of Mathematics (1) Cr/NC
Prerequisite: Award of graduate teaching association in mathematics.
Supervision in teaching mathematics. Lecture writing, style of lecture presentation and alternatives, test and syllabus construction, and grading system. Not applicable to an advanced degree. Required for first semester GTA's.

MATH 797. Research (1-3) Cr/NC/RP
Prerequisite: Completion of the comprehensive examination for the master's degree.
Preparation of a project or thesis for the master's degree.

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

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

MATH 799B. Thesis or Project Extension (0) Cr/NC/RP
Prerequisite: Prior registration in Thesis or Project 799A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP 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.

MATH 799C. Comprehensive Examination Extension (0) Cr/NC
Prerequisite: Completion or concurrent enrollment in degree program courses.
Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree.
Registration in 799C limited to two semesters.

For additional courses useful to mathematicians see the sections under:
- Computer Science
- Mathematics and Science Education
- Statistics
For further information regarding programs, consult the following:
Ph.D. Program ................................................................. CRMSE
6475 Alvarado Rd., #236
619-594-4696
http://www.sdsu.edu/grad/admissions/mathematics/
M.A. Program ............................................................... Mathematics and Statistics
619-594-6191
Teacher Education
619-594-6131

Mathematics and Science Education
Faculty
Joanne Lobato, Ph.D., Professor of Mathematics, Coordinator for Ph.D. Program
Nadine S. Bezuk, Ph.D., Professor of Teacher Education and Associate Dean of the College of Education
Leland L. Beck, Ph.D., Professor of Computer Science, Emeritus
Alexander W. Chizhik, Ph.D., Professor of Teacher Education
Lisa L. Clement Lamb, Ph.D., Professor of Teacher Education
Fred M. Goldberg, Ph.D., Professor of Physics, Emeritus
Richard A. Levine, Ph.D., Professor of Statistics
Stanley R. Maloy, Ph.D., Professor of Biology and Dean of the College of Sciences
Walter C. Oechel, Ph.D., Albert W. Johnson Distinguished Professor of Biology
Michael E. O’Sullivan, Ph.D., Professor of Mathematics
Randolph A. Philipp, Ph.D., Professor of Teacher Education
Chris L. Rasmussen, Ph.D., Professor of Mathematics
Matthew E. Anderson, Ph.D., Associate Professor of Physics
Janet S. Bowers, Ph.D., Associate Professor of Mathematics
Susan D. Nickerson, Ph.D., Associate Professor of Mathematics
(5) Curriculum vitae or resume.
(4) One copy of unofficial transcript;
(3) Personal statement;
(2) GRE scores (http://www.ets.org SDSU institution code 4682);
(1) Mathematics and science education application;
NOTE:
• Students who attended SDSU need only submit transcripts for work completed since last attendance.
• Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

General Information
The Department of Mathematics and Statistics offers two specializations in its program of graduate study leading to a Master of Arts degree in education or a Master of Science degree in mathematics. 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 college mathematics courses, while also providing them with a better understanding of the issues involved in teaching and learning mathematics. The specialization for secondary teaching offers course work designed to strengthen the mathematical background 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 curricular 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 students seeking the Master of Arts degree in education with concentrations in elementary curriculum and instruction or secondary curriculum and instruction, offered by the School of Teacher Education.
Mathematics and Science Education

Associateships
Graduate teaching associateships 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.

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 Four of this bulletin. In addition, students seeking the Master of Arts degree for teaching service must have passed a qualifying examination in mathematics education.

Specific Requirements for the Master of Arts Degree for Teaching Service in Mathematics
(Major Code: 17011) (SIMS Code: 776305)
In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Four of this bulletin, the students must complete a graduate program of at least 30 units, 24 of which must be from the Department of Mathematics and Statistics. At least 15 of the 24 must be 600- and 700-numbered courses. A student's program must be prepared in conference with and approved by the graduate adviser.

The two specializations leading to the Master of Arts for teaching service require completion of a specific pattern of graduate units described below.

Specialization in Mathematics for Community College Teaching (SIMS Code: 776320). This specialization is designed to satisfy the requirements for teaching at the community college level. Students must have completed a bachelor's degree in mathematics (or equivalent) before entering the program and must have completed six units 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.

Plan A requires Mathematics 600, 601, 602, and Mathematics Education 603; six units selected from Mathematics 509, 720, Mathematics Education 604, 605, 606, 607; nine units of electives selected with the approval of the adviser; and Mathematics 799A, Thesis.

Plan B requires Mathematics 600, 601, 602, and Mathematics Education 603; nine units selected from Mathematics 509, 720, Mathematics Education 604, 605, 606, 607; and nine units of electives selected with the approval of the adviser. In addition, students must pass a comprehensive examination in mathematics education.

Specialization in Mathematics for Secondary Teaching (SIMS Code: 776351). This specialization is designed to strengthen the mathematical 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 program.

Plan A requires Mathematics 524: Mathematics Education 603; three units selected from Mathematics 510, 600; three units selected from Mathematics 521A or 601; three units selected from Mathematics 534A or 602; six units selected from Mathematics 509, 720, Mathematics Education 604, 605, 606, 607; six units of electives selected with the approval of the adviser; and Mathematics 799A, Thesis.

Plan B requires Mathematics 524; Mathematics Education 603; three units selected from Mathematics 510, 600; three units selected from Mathematics 521A or 601; three units selected from Mathematics 534A or 602; nine units selected from Mathematics 509, 720, Mathematics Education 604, 605, 606, 607; and six units of electives selected with the approval of the adviser. In addition, students must pass a comprehensive examination in mathematics education.

Master of Arts Degree in Education
Concentration in Mathematics Education (K-8)
(Major Code: 17012) (SIMS Code: 331947)

The Master of Arts degree in education with a concentration in K-8 mathematics education is designed to provide teachers a deeper understanding of issues in learning and teaching mathematics in grades K-8, and increased knowledge of current trends, research, and assessment in mathematics education. Students can expect to acquire new perspectives and skills about mathematics teaching, specialized knowledge of children's mathematical understanding, and preparation for leadership among teachers in mathematics teaching.

1. Prerequisites: Applicant must have at least one year of teaching experience or consent of program coordinator, and must file an application for admission to both the university and the K-8 mathematics education program. Successful applicants must demonstrate personal, professional, and academic potential for success in this program. For specific admission criteria see the K-8 Mathematics Education Master of Arts program website at http://coe.sdsu.edu/departments/MathEd/master.htm.

2. Core Program (12 units):

- MTHED 600 Teaching and Learning Mathematics in the Early Grades (Pre-K to 4) (3)
- MTHED 601 Teaching and Learning Mathematics in the Middle Grades (3)
- MTHED 603 Seminar on Learning Theories in Mathematics Education (3)
- TE 511 Assessment in Mathematics Education (3)

3. Electives (9 units): With the approval of the adviser, select three courses from the following:

- DLE 553 Language Assessment and Evaluation in Multicultural Settings (3)
- DLE 601 Language Policies and Practices (3)
- LDT 540 Educational Technology (3)
- LDT 541 Educational Web Development (3)
- LDT 570 Advanced Teaching with Technologies (3)
- LDT 572 Technology for Course Delivery (3)
- MTHED 604 Seminar on Teaching Issues in Mathematics (3)
- MTHED 605 Algebra in the 7-14 Curriculum (3)
- MTHED 606 Selected topics in 7-14 Mathematics Curriculum (3)
- TE 790 Seminar in Teacher Education (3)

Or three units of a 500- or 600-level course approved by the program coordinator.

4. Research (9 units):

- ED 690 Methods of Inquiry (3)
- ED 795A Seminar (3)
- ED 795B Seminar (3)

Section II. Doctoral Program

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 and the College of Education and are affiliated with the Center for Research in Mathematics and Science Education (CRMSE). They represent a number of different disciplines, including biology, mathematics, physics, psychology, statistics, and teacher education. The program faculty at UCSD, also an interdisciplinary group, are members of the Division of Physical Sciences (chemistry, mathematics, and physics) the Division of Biological Sciences, or the Division of Social Sciences (cognitive science, communication, education studies, psychology, and sociology). The program is administered under the College of Sciences at SDSU and under the Division of Physical Sciences at UCSD.
The research interests of the participating faculty members cover a wide range of issues in the learning and teaching of mathematics and the sciences. Graduates of the program will be qualified to take a variety of professional positions, including faculty appointments in universities, colleges, and community colleges; specialist positions in public school districts; and out-of-school employment in settings that require expertise in mathematics and science education.

**Doctoral Faculty**

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

**San Diego State University:**
- Coordinator: Joanne Lobato
- Graduate Adviser: Meredith E. Vaughn
- Staff Adviser: Deb Escamilla
- Doctoral Program Members: Biology: Maloy, Oechel, Williams; Computer Science: Beck; Mathematics: Bowers, Lobato, Nickerson, O’Sullivan, Rasmussen, Reinholz, Zahner; Physics: Anderson, Goldberg; Statistics: Levine; Teacher Education: Bezuk, Chizhik, Lamb, Philipp, Ross, Soto, Vaughn

**University of California, San Diego:**
- Coordinators: Jeff Rabin and Gabriele Wiehnhausen
- Graduate Adviser: Chris Halter
- Staff Adviser: Sherry Seethaler
- Doctoral Program Members: Alac, Barner, Brydges, Burgasser, Bussey, Daly, Damrow, Eggers, Halter, Heyman, Levin, Lo, Nuñez, Quarfoot, Rabin, Remmel, Sawrey, Simon, Stevens, Weizman, Wiehnhausen

**Admission to Doctoral Study**

Applicants for admission to the doctoral program in mathematics and science education must meet the general requirements 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 in mathematics or science (or a related discipline); (b) a master's degree, or its equivalent, in biology, chemistry, physics, or mathematics; (c) a GPA of at least 3.25 in the last 30 semester (or 45 quarter) units of upper division work and at least a 3.5 in the graduate work attempted; (d) good standing in the last institution attended; (e) suitable scores in quantitative, verbal, and analytic sections of the Graduate Record Examinations.

Students with a master's degree in mathematics education can also be considered for admission if they meet the following requirements: (a) a bachelor's degree in mathematics; (b) a master's degree in mathematics education that includes graduate level mathematics courses in analysis and algebra; and (c) coursework in geometry at the advanced undergraduate or graduate level. The GPA, GRE, and graduate standing requirements specified in the previous paragraph must also be met. Students entering the program with a master's degree in mathematics education are required to take additional mathematics courses as specified in “Specific Requirements for the Doctor of Philosophy Degree.” Students with a master's degree in physics education, chemistry education, or biology education should contact the MSE program coordinators.

Students applying for admission to the doctoral program should electronically submit the university application available at [http://www.sdsu.edu/apply](http://www.sdsu.edu/apply) along with the $55 application fee. All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the Mathematics and Science Education Ph.D. Program.

**Graduate Admissions**

The following materials should be submitted as a complete package directly to:

- Graduate Admissions
- Enrollment Services
- San Diego State University
- San Diego, CA 92182-7416

1. Official transcripts (in sealed envelopes) from all postsecondary institutions attended:
   - NOTE:
     - Students who attended SDSU need only submit transcripts for work completed since last attendance.
     - Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.
2. GRE scores ([http://www.ets.org SDSU institution code 4682](http://www.ets.org/
   - (2) English language score, if medium of instruction was in a language other than English ([http://www.ets.org SDSU institution code 4682](http://www.ets.org/

**Mathematics and Science Education**

The following materials should be delivered or mailed to:
- Mathematics and Science Education Ph.D. Program
- CRMSE, San Diego State University
- 6475 Alvarado Road, Suite 206
- San Diego, CA 92120-5013

1. Application for doctoral program in mathematics and science education ([http://www.sdsu.edu/CRMSE/msed/msed_app02.doc](http://www.sdsu.edu/CRMSE/msed/msed_app02.doc))
2. Mathematics and Science Education recommendation form as cover sheet ([http://www.sdsu.edu/CRMSE/msed/Recommend_Form-CoS.doc](http://www.sdsu.edu/CRMSE/msed/Recommend_Form-CoS.doc))
3. At least three letters of recommendation.

**Specific Requirements for the Doctor of Philosophy Degree**

(Major Code: 08997) (SIMS Code: 993501)

**Residency Requirements.** After formal admission to the doctoral program, the student must complete a 36-unit residency at the University of California, San Diego, of which a maximum of 12 units can be upper division undergraduate courses (100 level). Lower division undergraduate courses do not count toward residency. Students must also complete an 18-unit residency at San Diego State University. The residency requirements cannot be replaced by coursework taken elsewhere.

**Language Requirement.** There is no formal language requirement for this program.

**Course Requirements.** All students admitted into the doctoral program will fulfill the following requirements. Any alternative method of fulfilling these requirements must be approved by the graduate advisers.

A. Four research apprenticeship experiences:
   - SDSU: MSE 801 and SDSU: MSE 802 and UCSD: MSED 295, and SDSU: MSE 820 or UCSD: MSED 298
   - B. Core courses in Mathematics or Science Education:
     - Science Education students must also take UCSD: MSED 290.
     - Mathematics Education students must select two of the following additional courses: SDSU: MTHED 600, 601, 604, 605, 606, 607.
   - C. Three courses on quantitative and qualitative research methods:
     - SDSU: MSE 810 and one of the following sequences:
       - UCSD: EDS 287, 288 or
       - UCSD: PSYC 201A, 201B or
       - UCSD: MA 282A, 282B or
       - SDSU: PSY 670A, 670B.
D. Two courses in cognitive science at UCSD selected from:
   - COGS 102A, 234
   - COGS 102B, 200, 260
   - one of COGS 101A, 101B, 101C.

E. One teaching practicum.
   - SDSU: MSE 805, 806, or 807
   - UCSD: EDS 129A/139, or Discipline 500 or MSED 295.

F. Two courses from different categories are selected with
   advisers according to the student's needs and background:
   1. Philosophy and History: UCSD: PHIL 145, 146, 147, 209A;
      HISC 106, 107, 108, 109, 160/260, 163/263, 164/264, or
      165/265.
      126/EDS 126.
   3. Mathematics and Science: Graduate level courses
      in biology, chemistry, mathematics, or physics.
   4. Teaching Experience: An option for students who have
      not yet had teaching experiences at both the K-12 and
      collegiate levels is to take a second teaching practicum.
   5. Other. Other types of courses (at the graduate or upper
      division undergraduate level) can be approved by the
      advisers if they contribute to a coherent program.

G. Three doctoral research courses:
   - SDSU: MSE 830, 899
   - UCSD: MSED 299.

Beyond these requirements, no specified number of courses is
required for the doctoral degree. It is expected, however, that all
the doctoral students will supplement the requirements with electives that
contribute to individual career objectives.

Additional Requirements for Students Entering with a Master's
Degree in Mathematics Education. Students who are admitted into the
doctoral program with a master's degree in mathematics education
will increase the breadth and depth of their mathematical knowledge
by fulfilling the requirements specified for Option A or Option B:

Option A.
   - UCSD: MATH 240A, 240B, 240C and
   - Pass the UCSD comprehensive examination on analysis at
     the master's level and
   - One graduate algebra course: UCSD: MATH 200A or SDSU:
     MATH 627A or 623. MATH 623 can only be selected if the
     student has already taken a graduate level abstract algebra
     course.

Option B.
   - Select two of SDSU: MATH 627A, 627B, 623, and
   - Pass the SDSU comprehensive examination on algebra at
     the master's level and
   - UCSD: MATH 240A

Whether the student selects Option A or Option B, the year-long
sequence in algebra or analysis must be taken in Year 1 of the
doctoral program. All of the requirements for Option A or Option B
must be completed prior to the second year examination; however,
students are strongly encouraged to fulfill all of the requirements in
Year 1. A grade of B or better must be earned in each course.

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 may be assessed after completion of no
   more than 24 semester units of coursework. This evaluation
   may take place not 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. Comprehensive Examinations. At the end of the second year,
   the student will take a written comprehensive examination in
   general cognition and an oral examination 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
   four weeks before the defense. The student's dissertation
   committee will make a recommendation to the graduate deans
to pass or fail the student.

Faculty Advisers. Upon admission to the doctoral program,
the program directors will assign each student a faculty adviser at
both universities. The faculty advisers will serve as advisers until the
student's dissertation committee is appointed.

Dissertation Committee. The dissertation committee will be
composed of five members with at least two faculty members from
each campus. The student will select members of the dissertation
committee in consultation with program faculty and the graduate
advisers.

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
San Diego State University and the University of California, San
Diego have a number of research and teaching associateships available
to support students admitted to the Joint Doctoral Program. All students
applying to the program will be considered for financial support.
Mathematics and Science Education (MSE) DOCTORAL COURSES

MSE 802. Orientation Practicum (1-3) Cr/NC
Prerequisite: Admission to doctoral program in Mathematics and Science Education.

MSE 805. Supervised Teaching of Teacher Preparation Courses (3) Cr/NC/RP
Prerequisite: Admission to doctoral program in Mathematics and Science Education.

MSE 807. Specially Designed Practicum (3) Cr/NC/RP
Prerequisite: Admission to doctoral program in Mathematics and Science Education.

MSE 810. Seminar in Research Design (3)
Prerequisite: Successful completion of qualifying examination. Students and faculty present ongoing research for discussion and critique.

MSE 819. Doctoral Special Study (3) Cr/NC/RP
Prerequisites: An officially constituted dissertation committee and advancement to candidacy.

MSE 899. Doctoral Dissertation (1-15) Cr/NC/RP
Prerequisites: An officially constituted dissertation committee and advancement to candidacy.

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. Assessment in Mathematics Education
Courses for Mathematics Education (MATH)
Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES
NOTE: Proof of completion of prerequisites required for all upper division courses: Copy of transcript.

MATH 501A. Reasoning: Place Value and Arithmetic Operations (1)
Prerequisites: Teaching credential and consent of instructor. Place value and its role in development and understanding of arithmetic operations, to include numeration systems, student methods, standard algorithms, and mental computation.

MATH 501B. Reasoning: Rational Numbers and Real Number Systems (1)
Prerequisites: Teaching credential and consent of instructor. Rational numbers and structure of real number system, to include meanings and models for fractions with attention to operations on rational numbers.

MATH 504A. Reasoning: Quantities and Mathematical Relationships (1)
Prerequisites: Teaching credential and consent of instructor. Reasoning about measurable characteristics in problem context, and relationships among these measurements. Additive, multiplicative reasoning, and proportional reasoning in middle grades.

MATH 504B. Reasoning: Algebra and Nature of Change (1)
Prerequisites: Teaching credential and consent of instructor. Pattern searching, generalizing, graphing to represent quantitative relationships, and role of these topics in preparing elementary and middle school students for algebra.

MATH 506A. Algebra in the Middle Grades I (3)
Prerequisites: Teaching credential and consent of instructor. Mathematical foundations that underlie concepts and procedures emphasized in algebra I and algebra II as taught at middle and high school level, to include focus on real number system, ratios, proportional reasoning, equality, number theory, and proof.

MATH 506B. Algebra in the Middle Grades II (3)
Prerequisites: Mathematics 506A, practicing teachers with valid teaching credential, and consent of instructor. Mathematical foundations that underlie concepts and procedures emphasized in algebra I and algebra II as taught at middle and high school level, to include focus on functions in context of relations, patterns, and graphing.

MATH 507A. Functions and Study of Change I (2)
Prerequisites: Mathematics 506B, practicing teachers with valid teaching credential, and consent of instructor. Mathematical ideas surrounding linear functions and change to include proportionality, slope, and graphing. Arithmetic and geometric sequences.

MATH 507B. Functions and Study of Change II (3)
Prerequisites: Mathematics 507A, practicing teachers with valid teaching credential, and consent of instructor. Mathematical ideas surrounding nonlinear functions and variable rates of change to include quadratic and exponential situations.

GRADUATE COURSES

MATH 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.

MATH 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.

MATH 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.

Mechanical Engineering
Refer to “Engineering” in this section of the bulletin.

Molecular Biology
Refer to “Biology” in this section of the bulletin.
Music and Dance
In the College of Professional Studies and Fine Arts

General Information
The School of Music and Dance offers graduate study leading to the Master of Arts degree in music and the Master of Music degree. The school also offers advanced coursework in dance that may be used toward fulfilling advanced degree requirements in Interdisciplinary Studies and in other departments with the approval of the student’s graduate adviser.

With approval of the school, students electing to pursue the Master of Arts degree may specialize in one of the following fields: ethnomusicology and musicology. Piano pedagogy and theory are currently not accepting new graduate students. Master of Music students may specialize in composition, conducting, jazz, or performance.

Graduate students are prepared for careers that encompass scholarly research, teaching, performing, or creating new works.

Composition: Individual composition studies integrated with an awareness of global music practices.

Conducting: Literature and score analysis, hand techniques, rehearsal techniques, general preparation and performance in both the choral and instrumental areas.

Ethnomusicology: Study of global music with emphasis on cultural context, representation, ethnography, fieldwork, and performance. (Currently not accepting new graduate students.)

Jazz Studies: Education, research, performance, and composition in all styles of jazz.

Musicology: With the approval of the faculty, students may select a topic in medieval, renaissance, baroque, classical, romantic, twentieth century music, or American music. (Currently not accepting new graduate students.)

Performance: Performance studies are offered on all instruments and voice.

Piano Pedagogy: Preparation of the teacher of the child, adolescent, or adult students. (Currently not accepting new graduate students)

Theory: Comprehension of and facility with historical analytic techniques. (Currently not accepting new graduate students)

Graduate students are prepared for careers that encompass scholarly research, teaching, performing, or creating new works.

Interdisciplinary Studies and in other departments with the approval of the student’s graduate adviser.

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Graduate students are prepared for careers that encompass scholarly research, teaching, performing, or creating new works.

Interdisciplinary Studies and in other departments with the approval of the student’s graduate adviser.
Admission to Graduate Study in Music

Applicants must have completed a bachelor's degree with a major in music including 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.

All domestic students must demonstrate a minimum 2.85 GPA. All foreign students must demonstrate a minimum 3.0 GPA and in cases where the primary instruction was in a language other than English, a minimum English language score of 550. Foreign applicants taking the computer-based English language test must achieve a minimum score of 213 or 80 or higher using the Internet version.

After taking placement examinations in Western music theory, aural skills, and performance (where applicable), applicants will be admitted to the program with conditional graduate standing. Normally, one semester will be allowed to remove deficiencies indicated by these placement examinations.

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.

All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the School of Music and Dance.

Graduate Admissions

The following materials should be submitted as a complete package directly to:

Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;

NOTE:
- Students who attended SDSU need only submit transcripts for work completed since last attendance.
- Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

(2) GRE scores (http://www.ets.org SDSU institution code 4682);

(3) English language or the computer-based English language score for foreign students, if instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

School of Music and Dance

The following admissions materials must be submitted electronically via DecisionDesk, http://gpa.sdsu.edu/decisiondesk:

(1) Two letters of reference;
(2) One-page statement of personal aims and goals.
(3) M.A. applicants: Refer to special requirements for Admission to Master of Arts Degree in Music in the next section.

Consult the School of Music and Dance website at http://musicdance.sdsu.edu for further information concerning admission. If necessary, materials may be sent directly to:

Director of Graduate Studies
School of Music and Dance
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-7902

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy, as described in Part Four of this bulletin, and must have removed any deficiencies identified in the qualifying (placement) examinations by the end of the first semester.

Admission to Master of Arts Degree in Music

In addition to the general admission requirements, special admission requirements for the M.A. in ethnomusicology, if student has an undergraduate music degree, include: (a) submit a research paper; (b) prepare an audition on an instrument or voice in western or non-western music; (c) complete an interview; and (d) complete the qualifying (placement) examination in music history. If a potential graduate student in ethnomusicology has an undergraduate degree in anthropology or related humanistic discipline, the student must complete the equivalent of Music 205A and 205B, in addition to the requirements listed above.

Special admission requirements for the M.A. in musicology include: (a) the one-page statement of personal goals must describe how the student has been involved in music, why the student is interested in pursuing a graduate degree in musicology, and what research topics interest the student; (b) the two letters of reference should be from individuals who are in a position to comment on the student's potential to succeed in graduate work; (c) a 10 to 12-page paper on any topic of music history that reflects exceptional skills in critical thinking, to include references to appropriate literature, and demonstrates competence in spelling, grammar, organization, and citation format; and (d) interview.

Specific Requirements for the Master of Arts Degree

(Major Code: 10051) (SIMS Code: 665302)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Four of this bulletin, the student must complete a 30-unit graduate program with at least 18 units in 600- and 700-numbered courses and the following core: Music 612 or 613, 652, or 654, and 690.

Students may choose either Plan A or Plan B. Students in Plan A are required to enroll in Music 799A. Thesis or Project, and to pass a final oral comprehensive examination on the thesis. Students in Plan B are required to enroll in Music 766, Graduate Lecture Recital. A written document is required of all students electing Plan B and students are required to pass a final oral comprehensive examination on the document. Musicology students are also required to complete a written comprehensive examination.

Master of Arts candidates in ethnomusicology and musicology must have a reading ability in an approved foreign language. In addition to the requirements stated above, students must complete requirements in the selected specialization.

Ethnomusicology (SIMS Code: 665317)

Core: Music 612, 654, 690.
Program: Music 561 (6 units), 691; 766 (Plan B) or 799A (Plan A).
Electives: Nine units selected from Music 570, 590, 651K, 652, or from approved 600- or 700-numbered courses with a minimum of three units from 600-700 numbered courses.

Musicology (SIMS Code: 665335)

Core: Music 613, 652, 690.
Program: Music 611, 612, 654, 691; 766 (Plan B) or 799A (Plan A).
Electives: Six units selected from Music 500- and 600-level courses; of which three units must be selected from courses in history, language, literature, or arts other than music.

Music Theory (SIMS Code: 665341)

Core: Music 613, 652, 690.
Program: Six additional units selected from Music 613 and 614; nine units selected from Music 570-589 (1-4 units), 590, 654, and 799A.
Electives: Three units.

Piano Pedagogy (SIMS Code: 665348)

Core: Music 613, 652, 690.
Program: Music 541, 542, 554, 641, 651 (4 units); and 766 (Plan B) or 799A (Plan A).
Electives: Two units.

Refer to Graduate 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 a comprehensive creative portfolio of original work. Those seeking a conducting specialization must upload video content of their conducting expertise (rehearsal and performance) via DecisionDesk, http://gra.sdsu.edu/decisiondesk/, and complete an on-campus interview/audition. The Master of Music is available with the following specializations: composition, conducting, performance and jazz studies. Please consult the School of Music and Dance website at http://musicdance.sdsu.edu for further information concerning admission.

Specific Requirements for the Master of Music Degree

(Major Code: 10041) (SIMS Code: 665303)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Four 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.

In order to be advanced to candidacy, students in vocal performance must satisfy either a music foreign language examination or satisfactorily complete one introductory college semester in French, German, and Italian. 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 (SIMS Code: 665362)

Core: Music 613, 652, 690.
Program: Music 507; three additional units from Music 613; three additional units from Music 613 or 614; 651 (9 units); 767.
Electives: Two units.

Conducting (SIMS Code: 665372)

Core: Music 613, 652, 690.
Program: Music 554, 570-589 (2 units), 651 (9 units); 767.
Electives: Five units.

Jazz Studies (SIMS Code: 665378)

Core: Music 614, 690.
Program: Music 651 (9 units), six units selected from Music 507, 566A-566B, 570-589 (1-3 units), 590; 767.
Electives: Three units.

Performance (SIMS Code: 665386)

Core: Music 613, 652, 690.
Program: Music 554, 570-589 (vocal majors must choose opera) (3 units), 651 (9 units); 767.
Electives: Four units.

Refer to Graduate Music Student Handbook for further details.

Artist Diploma Advanced Certificate

(SIMS Code: 665388)

The artist diploma prepares preprofessional performance students for professional careers by giving focused instruction in all areas of performance including technique, interpretation, repertoire, stage deportment and communication skills, and knowledge of the business of professional performance.

Applicants must show proof of completion of an undergraduate music degree from an accredited institution with a GPA of 3.0 in the last 60 semester (90 quarter) units attempted. Successful completion of an entrance audition and a review of undergraduate transcripts are required for entrance to this certificate program. Students whose undergraduate degree is not in music must complete qualifying placement examinations in Western music theory, Western history and literature, and aural skills, in addition to the entrance audition. Students must enroll in this program as matriculated students.

Students must complete the following 24-unit curriculum: Music 515, 516 (2 units), 570-589 (vocal majors must choose opera) (4 units), 651 (8 units); 767, 798 (1 unit); four units to be selected from Music 507, 518, 541, 542, 543, 554 (2-4 units), 566A-566B (for jazz studies students only), 590, 641, 766, or 1-3 additional units of 798. Vocal students must demonstrate competency equal to a college-level course in French, German, and Italian.

The graduate adviser will be responsible for verifying a student's satisfactory completion of the academic requirements established for the program and for forwarding a completed copy of the verification form to Graduate and Research Affairs. Additionally, this adviser will direct the student into elective coursework that best suits the needs of the individual student.

All units in this certificate program are applicable to the various specializations in the M.A. in Music and the M.M. degree programs. However, not all courses are required in each specialization. Please see the requirements for each graduate specialization listed in the Graduate Bulletin.

Courses Acceptable for Master's Degree Programs in Music (MUSIC) (DANCE)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

Music (MUSIC)

UPPER DIVISION COURSES

MUSIC 507. Composition Laboratory (1)
Three hours of laboratory.
Prerequisites: Music 207 with a grade of C (2.0) or better and consent of instructor.
Continuation of Music 207. Maximum credit two units.

MUSIC 514. Volunteerism in the Arts (3)
Prerequisite: Upper division standing.
Study of volunteerism and its effects on non-profit organizations and the creation and implementation of volunteer projects in partnership with local non-profit performing arts organizations.

MUSIC 515. Professional Orientation for Music Performers (2)
One lecture and two hours of activity.
Prerequisite: Twelve units of upper division or graduate standing in B.M. or M.M. degree. Others by consent of instructor.
Conditions met in professional music world as well as opportunities available. Auditions, contracts, legal and tax responsibilities, media and press promotion, grants, professional management, apprenticeships.

MUSIC 516. Performance Practice Forum (1)
Two hours of activity.
Prerequisite: Consent of instructor.
Musical style, repertoire, presentation, and evaluation as embodied in a musical performance. May be repeated with new content. Maximum credit four units.

MUSIC 518. Community Performance Practicum (2)
One lecture and two hours of activity.
Practicum for performers, educators, administrators, researchers, or clinicians intending to develop and implement performing arts outreach programs in the community. (Formerly numbered Music 518A.)

MUSIC 530. Music Internship (1-3) Cr/NC
Two hours of activity per unit.
Prerequisite: Upper division or graduate standing in a music degree program.
Work with approved music professionals and agencies off-campus to include education, performance, production, and administration under the combined supervision of agency personnel and instructor. Maximum credit six units.
Music and Dance

MUSIC 541. Performance Studies Pedagogy (3)
Two lectures and three hours of laboratory.
Prerequisite: Consent of instructor.
Teaching strategies for beginning and intermediate applied music. Survey and evaluation of teaching materials. Observation of individual or group lessons. See Class Schedule for specific content. Maximum credit three units.

MUSIC 542. Performance Studies Laboratory (2)
One lecture and three hours of laboratory.
Prerequisite: Music 541 with grade of C (2.0) or better.
Practical experience in teaching of individual or group lessons. See Class Schedule for specific content. Maximum credit four units.

MUSIC 543. Diction II (1)
Prerequisite: Music 243.
Principles of pronunciation and enunciation. Application to song and opera in Spanish, German, and French.

MUSIC 544. Music Literature (2)
Study of music literature. Analysis of scores and recordings. May be repeated with new course content. See Class Schedule for specific content. Maximum credit six units applicable to a bachelor's and master's degree.

MUSIC 560. Music and Visual Media (3)
Two lectures and three hours of activity.
Prerequisite: Music 460.
Techniques and aesthetics of combining music/sounds and visual elements, including contemporary film scoring techniques, sound design for installations and performance art, video game scoring and experimental immersive 3-D virtual reality.

MUSIC 561. Area Studies: Ethnomusicology (3)
Prerequisite: Music 305B with a grade of C (2.0) or better.
Music of a specific culture. May be repeated with new content.
See Class Schedule for specific content. Maximum credit six units.

MUSIC 566A-566B. Jazz Arranging and Composition (2-2)
Prerequisite: Music 305B with a grade of C (2.0) or better.
Analysis of jazz compositions and arrangements; arranging and composing for large and small jazz ensembles.

MUSIC 570. Advanced Chamber Music (1)
Three hours.
Prerequisite: Consent of instructor.
Study and public performance of established repertory as well as new compositions. Sections for string, woodwind, brass, piano, vocal, and mixed ensemble groups of three or more players. May be repeated with new course content. See Class Schedule for specific content. Maximum credit four units.

MUSIC 576. Wind Symphony (1)
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.

MUSIC 577. Symphonic Band (1)
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.

MUSIC 580. Symphony Orchestra (1)
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.

MUSIC 583. Opera Workshop (1)
Two hours of activity.
Prerequisites: By audition and consent of instructor.
Opera scenes, specific roles, chorus, design, and technical support functions in opera. Maximum credit four units.

MUSIC 584. 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.

MUSIC 585. Concert Choir (1)
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.

MUSIC 586. Chamber Singers (1)
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.

MUSIC 589. Jazz Ensemble (1)
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.

MUSIC 590. Advanced Practicum in Music (3)
Prerequisite: Consent of instructor in area of practicum.
Specific work in coordination of opera ensemble. Maximum credit of six units of 596 applicable to a bachelor's degree. Maximum credit of six units of 596 applicable to a bachelor's degree. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

MUSIC 596. Special Topics in Music (1-3)
A specialized study of selected topics from the several areas of music. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit of six units of 596 applicable to a bachelor's degree. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

MUSIC 598. Music Review: History, Analysis, and Aural Skills (3) Cr/NC
Prerequisite: Admission to the graduate program.
Review basic concepts of music theory, aural skills, and music history required for full candidacy in the graduate music program. Not applicable to the master's degree in music.

GRADUATE COURSES

MUSIC 611. Seminar in Musicology (3)
Systematic study of music based upon application of scientific investigation, philosophical speculation, modern historiography, and related academic disciplines in humanities and social sciences.

MUSIC 612. Seminar in Ethnomusicology Fieldwork Theory and Method (3)
Prerequisite: Credit or concurrent registration in Music 690.
Theory and method of ethnomusicology fieldwork research; ethnographic research, participant-observation, audio-visual documentation, musical representation and analysis, ethics; student fieldwork projects.

MUSIC 613. Seminar in Music Theory (3)
Prerequisite: Classified standing.
Current advanced analytic techniques in various areas of music. Maximum credit nine units applicable to a master's degree.

MUSIC 614. Seminar in Music Theory: Conceptual Analysis of the Jazz Idiom (3)
Current advanced analytic techniques in the jazz idiom.

MUSIC 641. Piano Pedagogy: Adolescent to Adult (3)
Two lectures and three hours of laboratory.
Prerequisite: Graduate standing.
Study of music through the piano for adolescent to adult with analysis and application of appropriate teaching procedures and learning theories. Analysis of literature with corresponding techniques, musical skills, and creativity. Supervised teaching.
MUSIC 651. Advanced Performance Studies (1-3)
Thirteen one-half hour private lessons (1 unit); thirteen one-hour private lessons (2 units); nineteen one-half hour 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 units may be applicable to the master of arts degree. Music 651M will include regular ensemble conducting experience.

A. Keyboard
B. Voice
C. Woodwind
D. Brass
E. Percussion
F. Strings
G. Harp
H. Jazz Instrument
I. Medieval / Renaissance Instrument
J. Non-Western Instrument
K. Conducting
L. Composition
M. Classic Guitar

MUSIC 652. Seminar in Music History (3)
Prerequisite: Classified standing.
Intensive study of music history. Maximum credit nine units applicable to a master's degree.

MUSIC 654. Seminar in Music History: Music Historiography in Global Perspective (3)
Prerequisite: Credit or concurrent registration in Music 690.
Music history through global case studies.

MUSIC 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.

MUSIC 691. Seminar in Professional Preparation for Academia (3)
Prerequisite: Music 690.
Professional music activities in academia. Prepare music graduate students for careers in higher education. Teaching and professional growth to include professional activities, ethics, professionalism, teaching practices, academic presentation, and publishing as related to discipline of music.

MUSIC 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

MUSIC 766. Graduate Lecture Recital (3) Cr/NC
Prerequisites: Advancement to candidacy. Consent of school director.
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.

MUSIC 767. Graduate Recital (3) Cr/NC
Prerequisites: Advancement to candidacy. Consent of school director.
For students in M.A. in Music, Plan B. A graduate presentation that may include elements of lecture and/or performance. Approximately one hour in length, the presentation is based upon a written document dealing with a musical problem in history, theory, pedagogy or ethnomusicology showing evidence of original research. Public presentation and an examination before a graduate committee of music faculty.

MUSIC 769B. Thesis or Project Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis or Project 799A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP 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.

MUSIC 799C. Comprehensive Examination Extension (0) Cr/NC
Prerequisite: Completion or concurrent enrollment in degree program courses.
Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.

Dance (DANCE)

DANCE 696. Special Topics in Dance (1-3)
Prerequisite: Graduate standing.
Specialized study of selected topics in dance. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

DANCE 798. Special Study (1-3) Cr/NC/RP
Prerequisites: Graduate standing, consent of school director and instructor.
Individual study. Maximum credit six units applicable to a master's degree.
General Information

The natural science program offers advanced coursework in natural science and science education. Graduate courses in natural science and science education may be used to fulfill requirements for advanced degrees in other departments with the approval of the student’s graduate adviser. For information on master’s and doctoral programs see Mathematics and Science Education.

Courses (N SCI)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSE

N SCI 596. Special Topics in Natural Science (1-4)
Prerequisites: Minimum ten units of natural science.
Selected topics in natural science for preservice and inservice elementary and secondary teachers and candidates for the M.A. in education. May be repeated with consent 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

GRADUATE COURSE

N SCI 798. Special Study (1-3) Cr/NC/RP
Prerequisite: Consent of staff; to be arranged with coordinator and instructor.
Individual study. Maximum credit six units applicable to a master's degree.
OFFICE: Adams Humanities 3138
TELEPHONE: 619-594-5357 / FAX: 619-594-2765
http://nursing.sdsu.edu

Faculty
Philip A. Greiner, D.N.Sc., Professor of Nursing, Director of School
Willa L. Fields, D.N.Sc., Professor of Nursing
Lauren P. Hunter, Ph.D., CNM, Professor of Nursing
Jaynellie F. Sticher, D.N.Sc., Professor of Nursing, Emeritus
Lorraine T. Fitzsimmons, D.N.S., APRN, FNP, ANP-BC,
Associate Professor of Nursing
Michael G. Gates, Ph.D., Associate Professor of Nursing
Sue A. Hadley, D.N.S., APRN, GNP, ANP-BC,
Associate Professor of Nursing
Young-Shin Lee, Ph.D., Associate Professor of Nursing
Beverly A. Carlson, Ph.D., P.N., CNS, CCNP-K, FAHA, Assistant
Professor of Nursing (Graduate Adviser)

General Information
The School of Nursing offers a graduate curriculum leading to the
Master of Science degree in nursing.
Graduates of the nursing program will be prepared to function as
middle or executive-level nursing administrators, nurse-midwives,
clinical nurse specialists, and/or nurse practitioners. There are four
concentrations: Advanced Practice Nursing of Adults and the Elderly,
Community Health Nursing, Nursing Leadership in Health Care
Systems, Women’s Health and Midwifery. Students in the Women’s
Health and Midwifery concentration may specialize in Nurse-Midwife,
Nurse-Midwife and Women’s Health Nurse Practitioner, or Women’s
Health Nurse Practitioner. Students in Advanced Practice Nursing of
Adults and the Elderly are prepared as either adult/gerontology nurse
practitioners and clinical nurse specialists or clinical nurse specialists
and nurse educators. The graduate program requires a minimum of
37 units. The program is designed for either full- or part-time study. All
graduates of the program are prepared for beginning roles as nurse
researchers and for further educational opportunities in doctoral studies.

The School of Nursing has clinical contracts with all of the leading
health care agencies within the county. Furthermore, graduate faculty are doctorally prepared, and students
may have the opportunity to be involved in ongoing faculty research
projects.

Admission to Graduate Study
Students applying for admission should electronically submit
the university application available at http://www.calstate.edu/apply
along with the $55 application fee.

All applicants must submit admissions materials separately to
SDSU Graduate Admissions and to the School of Nursing.

Graduate Admissions
The following materials should be submitted as a complete
package directly to:

Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary
institutions attended;

NOTE:
• Students who attended SDSU need only submit
transcripts for work completed since last attendance.
• Students with international coursework must submit
both the official transcript and proof of degree. If
documents are in a language other than English, they
must be accompanied by a certified English translation.

(2) GRE scores (http://www.ets.org SDSU institution code 4682);
(3) English language or IELTS score, if medium of instruction was
in a language other than English (http://www.ets.org SDSU
institution code 4682).

School of Nursing

The following admissions materials must be submitted electronically
State Apply application must be completed prior to the School of
Nursing application.

(1) School of Nursing departmental application;
(2) Three letters of recommendation attesting to capability to do
graduate work in nursing;
(3) Personal statement;
(4) One copy of unofficial transcript;
(5) Curriculum vitae or resume.

Section I.
Master’s Degree Programs

Admission to the Degree Curriculum

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

1. Have a baccalaureate degree with a major in nursing from
a program accredited by the Accreditation Commission for
Education in Nursing (ACEN) or the Commission on Collegiate
Nursing Education (CCNE). Graduates from baccalaureate
programs not having an upper division major in nursing or who
have deficiencies will be considered on an individual basis
and may be required to enroll in designated undergraduate
courses and graduate courses beyond the minimum units
necessary for advanced degrees.

2. Have a minimum cumulative grade point average of 3.0 on a
4.0 scale in undergraduate upper division courses.

3. Must have satisfactory score on GRE General Test.

4. Have a current California license to practice registered nursing.

5. One year of work experience as a registered nurse is preferred
before starting concentration/specialization courses. For Nurse-
Midwife applicants, the experience must be birth related. For the
Advanced Practice Nursing of Adults and Elderly, three years of
related experience is highly recommended.

6. Have satisfactorily completed a course in statistics. (Statistics
250 or equivalent with a grade of C or better.)

Advancement to Candidacy

All students must satisfy the general requirements for advancement
to candidacy as described in Part Four of this bulletin. Students must
satisfactorily complete at least 12 units of nursing courses listed on
the official program of study with a minimum grade point average of
3.0 and be recommended by the graduate adviser.
Specific Requirements for the Master of Science Degree

(Major Code: 12032)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree, as described in Part Four of this bulletin, the student must complete an officially approved 37-58 unit course of study. The program includes:

1. Thirteen units of core courses to include Nursing 604A, 604B, 608, 622, and 684.
2. A minimum of 18-45 units of graduate courses in the area of curriculum, to receive the school nurse services credential, students must complete a three unit audiometry course selected with approval.
3. Up to 12 semester units may be accepted in transfer from an accredited School of Nursing.

Students in all concentrations may choose between Plan A, Thesis or Project, or Plan B, Comprehensive Examination or Comprehensive Evidence-based change project. The choice of Plan A or Plan B should be made early in the program. Students should consult with the concentration chair for current policies. Up to 12 semester units of electives.

Nursing 799A, Thesis, OR Plan B Option, Comprehensive Examination, Nursing 798 (see below).

Students admitted to the school nursing specialization within the community health nursing concentration will pursue a program of studies leading to a Master of Science in nursing degree and a school nurse services credential. In addition to the Master of Science degree curriculum, to receive the school nurse services credential, students must complete a three unit audiometry course selected with approval of adviser. Required courses are as follows:

**Core Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>NURS 604A</td>
<td>Theoretical and Research Bases of Nursing I</td>
<td>3</td>
</tr>
<tr>
<td>NURS 604B</td>
<td>Theoretical and Research Bases of Nursing II</td>
<td>2</td>
</tr>
<tr>
<td>NURS 608</td>
<td>Nursing in the Health Care System</td>
<td></td>
</tr>
<tr>
<td>NURS 622</td>
<td>Quality Improvement and Program Evaluation in</td>
<td>3</td>
</tr>
<tr>
<td>NURS 684</td>
<td>Information Systems for Nursing</td>
<td>2</td>
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</tbody>
</table>

**Community Health Nursing Concentration Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>NURS 631</td>
<td>Community Health Nursing Practicum</td>
<td>3</td>
</tr>
<tr>
<td>NURS 632</td>
<td>Community Health Nursing</td>
<td></td>
</tr>
<tr>
<td>NURS 799A</td>
<td>Thesis OR NURS 798 (Plan B)</td>
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**Specialization Courses**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>NURS 601</td>
<td>Assessment and Health Promotion</td>
<td></td>
</tr>
<tr>
<td>NURS 670</td>
<td>School Nursing Management Practices</td>
<td>3</td>
</tr>
<tr>
<td>NURS 672</td>
<td>Primary Health Care of the School Aged Child</td>
<td>3</td>
</tr>
<tr>
<td>NURS 674</td>
<td>Health Education for School Nurses</td>
<td></td>
</tr>
<tr>
<td>SPED 500</td>
<td>Human Exceptionality</td>
<td>3</td>
</tr>
</tbody>
</table>

**Women's Health and Midwifery Concentration (SIMS Code: 554622)**

Specialization as a Nurse-Midwife (SIMS Code: 554651)

Graduates meet requirements for certification and licensure by the California Board of Registered Nursing. Graduates are eligible to sit for select national certification examinations. The program is accredited by the American College of Nurse-Midwives (ACME: Accreditation Commission for Midwifery Education, 8403 Colesville Road, Suite 1550, Silver Spring, MD 20910-6374, 240-485-1802), http://www.midwife.org/acme.cfm, and the Commission on Collegiate Nursing Education (CCNE). Part-time (3 to 4 years) and full-time (2 years) options of study are available. Required courses and units for the two-year nurse-midwife specialization are as follows:

**Core Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>NURS 604A</td>
<td>Theoretical and Research Bases of Nursing I</td>
<td>3</td>
</tr>
<tr>
<td>NURS 604B</td>
<td>Theoretical and Research Bases of Nursing II</td>
<td>2</td>
</tr>
<tr>
<td>NURS 608</td>
<td>Nursing in the Health Care System</td>
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</tr>
<tr>
<td>NURS 622</td>
<td>Quality Improvement and Program Evaluation in</td>
<td>3</td>
</tr>
<tr>
<td>NURS 684</td>
<td>Information Systems for Nursing</td>
<td>2</td>
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**Women's Health and Midwifery Concentration Course**

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>NURS 799A</td>
<td>Thesis OR NURS 798 (Plan B)</td>
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</table>

**Specialization Courses**

<table>
<thead>
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<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>NURS 501</td>
<td>Advanced Health Assessment and Health Promotion</td>
<td>3</td>
</tr>
<tr>
<td>NURS 501L</td>
<td>Advanced Health Assessment and Health Promotion</td>
<td></td>
</tr>
<tr>
<td>NURS 610</td>
<td>Pathophysiology in Adults and the Elderly</td>
<td>3</td>
</tr>
<tr>
<td>NURS 636</td>
<td>Women's Health Assessment and Management I</td>
<td>3</td>
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<tr>
<td>NURS 637</td>
<td>Women’s Health/Nurse-Midwifery Clinical Practicum</td>
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<td>Women’s Health/Nurse-Midwifery Clinical Practicum</td>
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<td>NURS 654</td>
<td>Advanced Practice Nursing: Primary Care I</td>
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<td>NURS 658</td>
<td>Clinical Pharmacology for Advanced Practice Nursing</td>
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<td>Women’s Health/Nurse-Midwifery Assessment and Management I</td>
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<td>NURS 745</td>
<td>Women’s Health/Nurse-Midwifery Clinical Practicum</td>
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Total Semester Units 52
Women’s Health and Midwifery Concentration Course

NURS 799A Thesis OR NURS 798 (Plan B).......................... 3

Specialization Courses

NURS 501 Advanced Health Assessment and Health Promotion ........................................ 3
NURS 501L Advanced Health Assessment and Health Promotion Laboratory.............................. 1
NURS 610 Pathophysiology in Adults and Elderly .................................................. 3
NURS 636 Women’s Health Assessment and Management I ...................................... 3
NURS 637 Women’s Health/Nurse-Midwifery Clinical Practicum I ........................................ 4
NURS 638 Nurse-Midwifery Intrapartum/Newborn Assessment and Management .......... 3
NURS 639 Women’s Health/Nurse-Midwifery Clinical Practicum II ........................................ 6
NURS 654 Advanced Practice Nursing: Primary Care I .............................................. 3
NURS 658 Clinical Pharmacology for Advanced Practice Nursing ...................................... 3
NURS 741 Integrated Women’s Health/Nurse-Midwifery Clinical Practicum ....... 4
NURS 744 Women’s Health/Nurse-Midwifery Assessment and Management III .......... 4
NURS 745 Women’s Health/Nurse-Midwifery Clinical Practicum III ................................ 6

Total Semester Units 42

Women’s Health and Midwifery Concentration Course

NURS 799A Thesis OR NURS 798 (Plan B).......................... 3

Specialization as a Women’s Health Nurse Practitioner (SIMS Code: 554653)

Graduates meet requirements for certification and licensure by the California Board of Registered Nursing. Graduates are eligible to sit for select national certification examinations. The program is accredited by the Commission on Collegiate Nursing Education (CCNE) and certified by the National Certification Corporation (NCC). Part-time (3 to 4 years) and full-time (2 years) options of study are available. Required courses and units for the two year women’s health care nurse practitioner specialization are as follows:

Core Courses

NURS 604A Theoretical and Research Bases of Nursing I ........................................... 3
NURS 604B Theoretical and Research Bases of Nursing II ....................................... 2
NURS 608 Nursing in the Health Care System ......................................................... 3
NURS 622 Quality Improvement and Program Evaluation in Nursing Systems Organization ........................................... 3
NURS 684 Information Systems for Nursing .......................................................... 2

Total Semester Units 13

Advanced Practice Nursing of Adults and the Elderly Concentration

(SIMS Code: 554629)

Specialization in Acute/Critical Care Nursing (Clinical Nurse Specialist and Nurse Educator Preparation) (SIMS Code: 554635)

All graduates meet requirements for clinical nurse specialist (CNS) certification in California and are eligible to sit for the national Adult-Gerontology Acute Care Clinical Nurse Specialist certification.

Required courses for the Master of Science degree with a concentration in advanced practice nursing of adults and the elderly and a specialization in acute/critical care nursing (CNS) and nurse educator preparation are as follows:

Core Courses

NURS 604A Theoretical and Research Bases of Nursing I ........................................... 3
NURS 604B Theoretical and Research Bases of Nursing II ....................................... 2
NURS 608 Nursing in the Health Care System ......................................................... 3
NURS 622 Quality Improvement and Program Evaluation in Nursing Systems Organization ........................................... 3
NURS 684 Information Systems for Nursing .......................................................... 2

Total Semester Units 44

(Nurse Practitioner and Clinical Nurse Specialist Preparation) (SIMS Code: 554630)

All graduates meet requirements for nurse practitioner and clinical nurse specialist certification in California and are eligible to sit for the national Adult-Gerontology Primary Care Nurse Practitioner certification and Adult-Gerontology Acute Care Clinical Nurse Specialist certification.

Required courses for the Master of Science degree with a concentration in advanced practice nursing of adults and the elderly and a specialization in acute/critical care nursing are as follows:

Core Courses

NURS 604A Theoretical and Research Bases of Nursing I ........................................... 3
NURS 604B Theoretical and Research Bases of Nursing II ....................................... 2
NURS 608 Nursing in the Health Care System ......................................................... 3
NURS 622 Quality Improvement and Program Evaluation in Nursing Systems Organization ........................................... 3
NURS 684 Information Systems for Nursing .......................................................... 2

Total Semester Units 50

329
Nursing

Advanced Practice Nursing of Adults and the Elderly Concentration Courses

- NURS 501 Advanced Health Assessment and Health Promotion .............................................. 3
- NURS 501L Advanced Health Assessment and Health Promotion Laboratory ......................... 1
- NURS 610 Pathophysiology in Adults and the Elderly ................................................................. 3
- NURS 654 Advanced Practice Nursing: Primary Care I ............................................................ 3
- NURS 655 Advanced Practice Nursing: Primary Care Practicum I ............................................ 6
- NURS 656 Advanced Practice Nursing: Primary Care II ........................................................... 3
- NURS 657 Advanced Practice Nursing: Primary Care Practicum II ......................................... 6
- NURS 658 Clinical Pharmacology for Advanced Practice Nursing .......................................... 3
- NURS 799A Thesis OR NURS 798 (Plan B) .............................................................................. 3

Specialization Courses

- NURS 751 Advanced Practice Nursing: Acute/Critical Care Theory and Technology ................ 3
- NURS 753 Advanced Practice Nursing: Acute and Critical Care Practicum ............................... 3

Total Units 50

Nursing Education Concentration
(SIMS Code: 554641)

Admission currently suspended for the Nursing Education Concentration.

Graduates of the nursing education concentration will be prepared for positions in academic and/or clinical settings within three areas of specialization: Adult Health, Maternal/Newborn, and Pediatric Nursing. Required courses for the concentration are as follows:

Core Courses

- NURS 604A Theoretical and Research Bases of Nursing I ......................................................... 3
- NURS 604B Theoretical and Research Bases of Nursing II ........................................................ 2
- NURS 608 Nursing in the Health Care System ............................................................................ 3
- NURS 622 Quality Improvement and Program Evaluation in Nursing Systems Organization .... 3
- NURS 684 Information Systems for Nursing ............................................................................... 2

Total Units 31

Area of Concentration Courses

- NURS 644 Program and Curriculum Development in Nursing Education ............................. 3
- NURS 645 Teaching and Learning in Nursing Education ............................................................ 3
- NURS 646 Nursing Education Practicum .................................................................................... 3
- NURS 799A Thesis OR NURS 798 (Plan B) .............................................................................. 3

Directed elective: Education focus ............................................................................................ 3

Total Units 15

Advanced Clinical Content
(Students select one specialization)

Adult Health (SIMS Code: 554642)

- NURS 501 Advanced Health Assessment and Health Promotion .............................................. 3
- NURS 501L Advanced Health Assessment and Health Promotion Laboratory ......................... 1
- NURS 610 Pathophysiology in Adults and the Elderly ................................................................. 3
- NURS 658 Clinical Pharmacology for Advanced Practice Nursing ........................................ 3
- NURS 751 Advanced Practice Nursing: Acute/Critical Care Theory and Technology ............. 3

Total Units 41

Maternal/Newborn (SIMS Code: 554643)

- NURS 636 Women's Health Assessment and Management ..................................................... 3
- NURS 638 Nurse-Midwifery Intrapartum/Newborn Assessment and Management ................... 3
- NURS 658 Clinical Pharmacology for Advanced Practice Nursing ........................................ 3
- NURS 744 Women's Health/Nurse-Midwifery Assessment and Management III .................... 3

Total Units 12

Pediatric Nursing (SIMS Code: 554646)

- NURS 601 Assessment and Health Promotion of Children and Adolescents ............................ 3
- NURS 672 Primary Health Care of the School Aged Child ......................................................... 3
- CFD 537 Child Abuse and Family Violence .................................................................................. 3
- CFD 560 Theories in Socio-Emotional Development .................................................................. 3
- NURS 798 Special Study (Cr/NC/RP) ....................................................................................... 3

Total Units 40

Nursing Leadership in Health Care Systems Concentration
(SIMS Code: 554645)

Required courses for the Master of Science degree with a concentration in nursing leadership in health care systems are as follows:

Core Courses

- NURS 604A Theoretical and Research Bases of Nursing I ......................................................... 3
- NURS 604B Theoretical and Research Bases of Nursing II ........................................................ 2
- NURS 608 Nursing in the Health Care System ............................................................................ 3
- NURS 622 Quality Improvement and Program Evaluation in Nursing Systems Organization .... 3
- NURS 684 Information Systems for Nursing ............................................................................... 2

Total Units 15

Area of Concentration Courses

- NURS 620 Foundations of Nursing Administration Practice .................................................... 3
- NURS 624 Nursing Care Systems and Personnel Management ............................................... 3
- NURS 724 Nursing Systems Administration Practicum ............................................................. 3
- NURS 725 Financial Management in Health Systems ............................................................... 3
- P H 742A Health Services Financial Management ..................................................................... 3
- NURS 726 Advanced Nursing Systems Administration Practicum .......................................... 3

Elective units selected with the approval of the concentration chair ............................................ 3

Total Units 37
General Information

(Major Code: 12033) (SIMS Code: 554682)
The Doctor in Nursing Practice (DNP) prepares nurse leaders to practice in or lead complex health care systems, manage diverse populations, and reduce disparities in health care outcomes. The expert practitioners prepared with the DNP degree are in demand as faculty members in California Schools of Nursing. The program is designed for advanced practice nurses in nurse practitioner, clinical nurse specialist, and health care leadership roles. The program is built on the American Association of Colleges of Nursing’s Eight Essentials for the Doctor in Nursing Practice. The program is organized so that the working nurse is able to attend and complete this step in their education.

Program Objectives
- Graduate “leader-scholars” in advanced nursing practice who will be prepared with a blend of skills in clinical practice, translational research, and organizational leadership to enable them to design, evaluate, and continuously improve the context within which care is delivered.
- Prepare expert and scholarly clinicians and leaders to serve as faculty members to meet a present and growing shortage of doctorally prepared faculty in nursing.
- Meet the needs of California employers for clinicians who can function in leadership and advanced nursing practice roles, who can design programs of care delivery that are locally acceptable, economically feasible, and which significantly impact health care outcomes.
- Increase the number of nurses in California who are able to influence health care policy and reduce disparities in health care outcomes for those who are sociodemographically and geographically disadvantaged.

The program will be offered as a post-master’s degree option. The MS to DNP curriculum builds on direct care or systems-focused competencies that were previously acquired through formal coursework leading to a Master of Science degree in nursing or related field. Students who would like to acquire a new role (such as an administrator enrolling in an NP option) would need to complete additional courses in the selected area of role specialization. The appropriateness of any graduate work completed by an applicant will be evaluated and transfer credit may be limited.

Students will still have the option of pursuing the traditional master’s degree to acquire advanced practice nursing, systems leadership, and community health advanced practice competencies.

Section III.
Credential and Certificate Program

School Nurse Services Credential
(Credential Code: 00600)

San Diego State University offers curricula leading to the School Nurse Services Credential. This authorizes the holder to serve as a school nurse. For information concerning the credential, the student is referred to the School of Nursing office or the School of Nursing website.

The School Nurse Services Credential has been approved by the Commission on Teacher Credentialing. All applicants seeking admission to the School Nurse Services Credential program must be admitted to the university and accepted as a classified postbaccalaureate student. Satisfactory completion of the program requires an overall GPA of 3.0.

Program
The following program elements are required of all health services credential candidates:
- NURS 601 Assessment and Health Promotion of Children and Adolescents ................................. 3
- NURS 631 Community Health Nursing Practicum ................................................................. 3
- NURS 632 Community Health Nursing .............................................................................. 3
- NURS 670 School Nursing Management Practices ............................................................ 3
- NURS 672 Primary Health Care of the School Aged Child .................................................. 3
- NURS 674 Health Education for School Nurses ................................................................... 3
- SPED 500 Human Exceptionality ...................................................................................... 3
- Audiometry: Three unit course selected with approval of adviser ......................................................... 3
- Elective with approval of graduate adviser .............................................................................. 3

Total Units 27

Nursing Education Certificate
(SIMS Code: 554681)

Admission currently suspended for the Nursing Education Certificate.

The School of Nursing offers a curriculum leading to an Advanced Certificate in Nursing Education. The certificate program prepares nurses holding master's degrees in nursing for the educator role in academic or clinical settings.

Applicants seeking admission to the Advanced Certificate in Nursing Education must be admitted to the university and accepted as a classified postbaccalaureate student.

Satisfactory completion of the program requires an overall grade point average of 3.0 with individual course grades above 2.0. For more information visit the School of Nursing website at http://nursing.sdsu.edu.
Students who enter the Advanced Certificate in Nursing Education and later decide they wish to transfer to the master's program in nursing education should consult with the graduate adviser. All courses in this certificate program are transferable to the master's degree in nursing education.

Admission requirements
2. Master's degree in nursing.

Program (12 units)

NURS 644 Program and Curriculum Development in Nursing Education ................................. 3
NURS 645 Teaching and Learning in Nursing Education .................................................. 3
NURS 646 Nursing Education Practicum ................................................................. 3
Elective: Graduate level course with education emphasis selected with consent of adviser ......... 3

Courses Acceptable for Master's and Doctoral Degree Programs in Nursing (NURS)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

NURS 501. Advanced Health Assessment and Health Promotion (3)
Prerequisites: Consent of School of Nursing graduate adviser; concurrent registration in Nursing 501L.
Physical and psychosocial assessment techniques, health promotion strategies for select populations.

NURS 501L. Advanced Health Assessment and Health Promotion Laboratory (1)
Three hours of laboratory.
Prerequisites: Consent of School of Nursing graduate adviser; concurrent registration in Nursing 501.
Laboratory experience in advanced health assessment and health promotion.

NURS 596. Special Topics in Nursing (1-3)
Prerequisites: Completion of 30 upper division units in nursing or graduate status; 3.0 grade point average.
Selected topics in the practice of nursing. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit of six units of 596 applicable to a bachelor's degree. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

GRADUATE COURSES

NURS 601. Assessment and Health Promotion of Children and Adolescents (3)
Two lectures and three hours of laboratory.
Prerequisite: Admission to the master's degree program in nursing or school nurse services credential.
Assessing physical, emotional, psychosocial and mental health of children and adolescents from birth to 19 years in hospital and community settings. Strategies for individual and group assessment. Age-appropriate interview techniques. Health promotion modalities.

NURS 604A. Theoretical and Research Bases of Nursing I (3)
Integration of theory and research in nursing. Research process including qualitative design, measurement, analysis, and research ethics.

NURS 604B. Theoretical and Research Bases of Nursing II (2)
Prerequisite: Nursing 604A.
Integration of theory and research in nursing. Evidence-based practice and use in professional nursing practice, qualitative research methods, publishing, and grant writing.

NURS 608. Nursing in the Health Care System (3)
Nursing in a changing health care delivery system. Organizational, economic, political, and professional concepts relevant to design and delivery of nursing care.

NURS 610. Pathophysiology in Adults and the Elderly (3)
Prerequisite: Consent of graduate adviser. Physiologic alterations associated with acute and chronic illness in adults and the elderly as a basis for primary prevention and medical and nursing interventions.

NURS 620. Foundations of Nursing Administration Practice (3)
Analysis of communication concepts appropriate to a variety of complex nursing and health care delivery systems.

NURS 622. Quality Improvement and Program Evaluation in Nursing Systems Organizations (3)
Evaluation theories and concepts within a nursing care delivery system and health care organization. Concepts of quality management, consistent with accreditation criteria and professional standards of practice.

NURS 624. Nursing Care Systems and Personnel Management (3)
Issues related to personnel resources, staff development, staff utilization and collective bargaining in health care agencies and nursing care systems.

NURS 631. Community Health Nursing Practicum (3)
Nine hours per week.
Experience working with individuals and families of a selected community group applying theoretical knowledge within framework of nursing process.

NURS 632. Community Health Nursing (3)
Prerequisites: Nursing 415, 415L; and admission to school nurse or nurse-midwife programs.
Community and needs assessments, Community participation and transcultural considerations. Grant writing, ethical dilemmas, evidence-based practice, program planning, staffing, budgeting, and evaluation.

NURS 636. Women's Health Assessment and Management I (3)
Comprehensive assessment and management of ambulatory care for women throughout childbearing cycle. Pregnancy, prenatal care, fetal physiology, and development.

NURS 637. Women's Health/Nurse-Midwifery Clinical Practicum I (2 or 4 or 6)
Six to 18 hours per week in consultation with adviser.
Prerequisite: Concurrent registration in Nursing 636.
Laboratory and clinical experiences providing obstetrical, gynecological, primary, and well woman care throughout lifespan. Maximum credit six units.

NURS 638. Nurse-Midwifery Intrapartum/Newborn Assessment and Management (3)
Prerequisites: Nursing 636 and 637.
Assessment and management of women with emphasis on labor and birth, postpartum, and normal newborn.

NURS 639. Women's Health/Nurse-Midwifery Clinical Practicum II (4 or 6)
Twelve to 18 hours per week in consultation with adviser.
Prerequisite: Concurrent registration in Nursing 638.
Clinical experiences in one or more of the following settings: gynecological, well women/family planning, primary care, obstetrics/prenatal, intrapartum, postpartum, and newborn care.

NURS 644. Program and Curriculum Development in Nursing Education (3)
Prerequisite: Graduate standing.
Role of nurse educators in academic and clinical settings including staff development and outcome evaluation. State, federal, and professional regulatory environment of nursing programs.

NURS 645. Teaching and Learning in Nursing Education (3)
Prerequisite: Credit or concurrent registration in Nursing 644.
Classroom and clinical teaching strategies in nursing education. Measuring learning, item and examination construction, evaluation, designing written assignments and clinical evaluation tools, and working with challenging learners.
NURS 646. Nursing Education Practicum (3)
One hundred thirty-five hours of practicum over the semester. Prerequisite: Nursing 645. Theory related to practice while teaching in academic and/or clinical settings. Nurse educator activities across the spectrum to include committee work, classroom and clinical teaching and evaluation of learners.

NURS 654. Advanced Practice Nursing: Primary Care I (3)
Primary care management of adults and elderly with acute and chronic health problems. Role of advanced practice nursing in health promotion and treatment of illness in primary care and specialized settings.

NURS 655. Advanced Practice Nursing: Primary Care Practicum I (6)
Eighteen hours of laboratory per week. Prerequisite: Concurrent registration in Nursing 654. Supervised clinical experiences providing primary care to adults and elderly in diverse clinical settings.

NURS 656. Advanced Practice Nursing: Primary Care II (3)
Prerequisites: Nursing 654 and 655. Concurrent registration in Nursing 657.
Primary care management of adults and elderly with acute and chronic health problems. Contemporary role and psychosocial issues in advanced practice nursing of adults and elderly.

NURS 657. Advanced Practice Nursing: Primary Care Practicum II (6)
Eighteen hours of laboratory per week. Prerequisites: Nursing 654 and 655. Concurrent registration in Nursing 656. Supervised clinical experiences providing primary care to adults and elderly in diverse clinical settings.

NURS 658. Clinical Pharmacology for Advanced Practice Nursing (3)
Prerequisite: Consent of graduate adviser. Pharmacologic knowledge and skills needed to manage drug therapy in various clinical settings. Emphasis on factors affecting drug selection; parameters to be monitored to determine drug effectiveness; rationale for continuing, modifying or discontinuing drug therapy.

NURS 670. School Nursing Management Practices (3)
Prerequisite: Admission to master’s degree program in nursing or health services credential. Management of school health services program; designed for school nurse with emphasis on professional and organizational systems.

NURS 672. Primary Health Care of the School Aged Child (3)
Prerequisites: Nursing 501 and 501L. Primary health care of the child and adolescent with emphasis on common health problems, chronic illness, drugs, behavioral problems, and the battered child.

NURS 674. Health Education for School Nurses (3)
Prerequisite: Nursing 672. Prepares school nurse to be an active participant in school health education with emphasis on planning and presentation of health instructional material focused on disease prevention and health promotion.

NURS 684. Information Systems for Nursing (2)
Information systems and information management in all aspects of nursing practice including client care, administration, research and education. Ethics of computer use and influence of information technology on client care. User skills.

NURS 692. Seminar in Selected Topics in Nursing (1-3)
Intensive study in specific areas of nursing. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master’s degree with approval of the graduate adviser.

NURS 724. Nursing Systems Administration Practicum (3)
Nine hours of laboratory. Prerequisites: Nursing 622 and concurrent registration in Nursing 624.
Provides observation and guided administrative experience specific to the role and function of the executive level manager in a selected health care system. Needs and individual objectives of the student are integrated into the experience.

NURS 744. Women's Health/Nurse-Midwifery Assessment and Management I (3)
Prerequisites: Nursing 638. Concurrent registration in Nursing 745. Theoretical concepts and principles applied to management of pathophysiological and psychological issues in women's healthcare. Contemporary issues in well women, gynecological, and primary care.

NURS 751. Advanced Practice Nursing: Acute/Critical Care Theory and Technology (3)
Prerequisite: Consent of advanced practice nursing concentration chair. Role of advanced practice nurse in acute/critical care settings. Problems and interventions with acutely and critically ill adults and elderly. Emphasis on research-based interventions, psychosocial responses, standards of practice, expanding technologies, and continuation of care to the home.

NURS 753. Advanced Practice Nursing: Acute and Critical Care Practicum (3)
Nine hours of laboratory. Prerequisite: Concurrent registration in Nursing 751. Care management activities of acute and critical care advanced practice nurse; research-based care of select adult and elderly clients and families; consultation in coordination of client care; interdisciplinary collaboration; evaluation of care based on standards of practice. Maximum credit six units applicable to a master’s degree.

NURS 797. Research (1-3) Cr/NC/RP
Prerequisite: Advancement to candidacy. Independent research in a specialized subject. Maximum six units applicable to a master’s degree.

NURS 798. Special Study (1-3) Cr/NC/RP
Prerequisite: Consent of instructor. Independent study. Maximum credit six units applicable to a master’s degree. For students using Plan B, Comprehensive Examination is limited to three units.
NURS 799A. Thesis (3) Cr/NC/RP
  Prerequisites: An officially appointed thesis committee and advancement to candidacy.
  Preparation of a project or thesis for the master's degree.

NURS 799B. Thesis Extension (0) Cr/NC
  Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of RP.
  Registration required in any semester or term following assignment of RP 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.

NURS 799C. Comprehensive Examination Extension (0) Cr/NC
  Prerequisite: Completion or concurrent enrollment in degree program courses.
  Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.
Nutritional Sciences
In the School of Exercise and Nutritional Sciences
In the College of Health and Human Services

OFFICE: Exercise and Nutritional Sciences 351
TELEPHONE: 619-594-5541
https://ens.sdsu.edu

Faculty
Matthew T. Mahar, Ed.D., Professor of Exercise and Nutritional Sciences, Director of School
Mee Young Hong, Ph.D., Professor of Exercise and Nutritional Sciences
Mark J. Kern, Ph.D., Professor of Exercise and Nutritional Sciences
Shirin Hooshmand-Yazdi, Ph.D., Associate Professor of Exercise and Nutritional Sciences
Changqi Liu, Ph.D., Assistant Professor of Exercise and Nutritional Sciences
Joan W. Rupp, M.S., RDN, Lecturer in Exercise and Nutritional Sciences

Associateships and Assistantships
Graduate teaching associateships are available for a limited number of qualified students. These provide essential education, technical training, and creative experience necessary for future professional and scholarly activity or college-level teaching. Graduate assistantships are also available in some cases to aid faculty research. Applications and additional information on graduate programs may be obtained from the School of Exercise and Nutritional Sciences website at http://ens.sdsu.edu.

General Information
The School of Exercise and Nutritional Sciences offers graduate study leading to the Master of Science degree in nutritional sciences and a concurrent graduate program leading to the Master of Science degree in exercise physiology.

Enrollment in the didactic program in dietetics (accredited by the Accreditation Council for Education in Nutrition and Dietetics), is limited to 16 graduate students and to those students admitted to the Master of Science degree program in nutritional sciences, or the concurrent Master of Science degree in nutritional science and Master of Science degree in exercise physiology. For admission consideration to the didactic program in dietetics, students must have completed all of the following (or equivalent courses) with a GPA of 3.1 or better: Biology 100, 100L, 211, 211L, 212, 336; Chemistry 100, 130, 160; and a statistics course (e.g. Psychology 280).

Admission to Graduate Study
All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the School of Exercise and Nutritional Sciences.

Graduate Admissions
The following materials should be submitted as a complete package directly to:
Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

1. Official transcripts (in sealed envelopes) from all postsecondary institutions attended;

   NOTE:

   - Students who attended SDSU need only submit transcripts for work completed since last attendance.
   - Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

   (2) GRE scores (http://www.ets.org SDSU institution code 4682);

   (3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682)

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 graduate adviser in the School of Exercise and Nutritional Sciences. 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 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 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 the Degree Curriculum
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. 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 at least 3.0 overall or at least 3.0 in the last 60 units of baccalaureate coursework, and a minimum score of 475 (old GRE score) or 151 (new GRE score) on the verbal and 475 (old GRE score) or 142 (new GRE score) on the quantitative sections of the GRE General Aptitude Test.

Students will be admitted ONLY in the fall semester. Submit applications by the application deadline.

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

Specific Requirements for the Master of Science Degree
(Major Code: 13061) (SIMS Code: 552933)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Four 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. Also, students complete their degree by choosing either Plan A or Plan B. In Plan A, students will include Nutrition 799A (thesis) for completion of their degree, accompanied by final oral examination on
the field of the thesis and on the implications of the thesis research for the broader field of nutritional sciences. If students select Plan B, Exercise and Nutritional Sciences 790 (Directed Readings) is required for completion of the degree.

Required courses (six units):

- ENS 601 Experimental Methods in Exercise and Nutritional Sciences (3)
- ENS 602 Research Evaluation in Exercise and Nutritional Sciences (3)

Select three units from the following:

- NUTR 600 Seminar: Foods and Nutrition (3)
- NUTR 700 Seminar in Nutrition (3)

Select six units from the following:

- NUTR 607 Child Nutrition (3)
- NUTR 608 Geriatric Nutrition (3)
- NUTR 610 Nutrition and Energy (3)

**Plan A**

- NUTR 799A Thesis (3) Cr/NC/RP
  OR
  - ENS 799A Thesis (3) Cr/NC/RP

**or Plan B**

- ENS 790 Seminar in Directed Readings (3) Cr/NC

Electives: Twelve units to be selected with approval of graduate adviser.

If a student, after entering the concurrent graduate program leading to a Master of Science degree in nutritional science and a Master of Science degree in exercise physiology returns to a single degree program, all the requirements for the single degree program must then be met.

The school expects a student to complete the degree within seven years. Failure to complete the degree requirements within seven years will result in dismissal from the program.

### Master of Science Degree in Nutritional Science and Master of Science Degree in Exercise Physiology

#### Admission to the Degree Curriculum

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 concurrent program in nutritional science and exercise physiology must meet the following requirements.

1. A grade point average (GPA) of at least 3.0 overall or at least 3.0 in the last 60 units of baccalaureate coursework.
2. A bachelor's degree in foods and nutrition, exercise science, kinesiology, physical education, or related fields. Students will be required to complete or have equivalent preparation in Biology 212, 336, Chemistry 100, 130, 160, Nutrition 201, 302, 302L, and Exercise and Nutritional Sciences 303, 304, 304L, and an undergraduate statistics course.
3. A minimum score of 475 (old GRE score) or 151 (new GRE score) on the verbal and 475 (old GRE score) or 142 (new GRE score) on the quantitative sections of the GRE General Aptitude Test.

Students will be admitted ONLY in the fall semester.

#### Advancement to Candidacy

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

#### Specific Requirements for the Master of Science in Nutritional Science and Master of Science in Exercise Physiology

(Major Code: 08356) (SIMS Code: 552990)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Four of this bulletin, the student must complete an officially approved course of study of not less than 48 units as outlined below. Also, students complete their degree by choosing either Plan A or Plan B. In Plan A, all students will include Nutrition 799A (thesis) or Exercise and Nutritional Sciences 799A (thesis) for completion of their degree, accompanied by a final oral examination on the field of the thesis and on the implications of the thesis research for the broader field of exercise and nutritional sciences. If students select Plan B, Exercise and Nutritional Sciences 790 (Directed Readings) is required for completion of the degree.

- **Plan A**
  - NUTR 799A Thesis (3) Cr/NC/RP
  OR
  - ENS 799A Thesis (3) Cr/NC/RP

**or Plan B**

- ENS 790 Seminar in Directed Readings (3) Cr/NC

#### Electives:

Seven units to be selected with approval of graduate adviser.

If a student, after entering the concurrent program leading to a Master of Science degree in nutritional sciences and a Master of Science degree in exercise physiology returns to a single degree program, all the requirements for the single degree program must then be met.

The school expects the student to complete the degree requirements within seven years. Failure to complete the degree requirements within seven years will result in dismissal from the program.

#### Courses Acceptable for Master's Degree Programs (NUTR)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

### UPPER DIVISION COURSES

- **NUTR 510. Nutrition and Community Health (3)**
  Two lectures and three hours of activity.
  Prerequisites: Grade of C (2.0) or better in Nutrition 203, 302, 302L, 304, and consent of instructor.
  Nutritional problems in the community with consideration of their resolution. Field placement experience required.

- **NUTR 596. Advanced Studies in Nutrition (1-6)**
  Prerequisite: Nine upper division units in nutrition.
  Advanced study of selected topics. 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. No more than six units of 596 may be applied to a bachelor's degree. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.
**GRADUATE COURSES**

**NUTR 600. Seminar: Foods and Nutrition (3)**
Prerequisites: Nutrition 301, 302, and 302L.
Introductory seminar of research and research publications in foods and nutrition.

**NUTR 607. Child Nutrition (3)**
Prerequisites: Nutrition 302 and 302L.
Nutrition, health, and biochemical growth in children. Conditions leading to malnutrition, prevention, and correction.

**NUTR 608. Geriatric Nutrition (3)**
Prerequisites: Nutrition 302 and 302L.
Biomedical and psychosocial aspects of aging that affect food habits, nutritional status, and nutrient needs of elders.

**NUTR 610. Nutrition and Energy (3)**
Prerequisites: Nutrition 302, 302L, 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.

**NUTR 700. Seminar in Nutrition (3)**
Prerequisites: Nutrition 302 and 302L.
Reading and analyses of basic and applied research in nutrition.

**NUTR 798. Special Study (1-3) Cr/NC/RP**
Prerequisite: Consent of staff; to be arranged with the instructor and approval of graduate program adviser. Individual study. Maximum credit six units applicable to a master's degree.

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

**NUTR 799B. Thesis Extension (0) Cr/NC**
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP 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.

**NUTR 799C. Comprehensive Examination Extension (0) Cr/NC**
Prerequisite: Completion or concurrent enrollment in degree program courses.
Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.
Faculty Committee for Marine Studies
Todd W. Anderson, Ph.D., Professor of Biology,
Director of Coastal and Marine Institute
Richard M. Gersberg, Ph.D., Professor of Public Health
Stephen A. Schellenberg, Ph.D., Professor of Geological Sciences
and Associate Dean of the Division of Undergraduate Studies

General Information
San Diego State University provides preparation for ocean-oriented careers by offering marine-related coursework, research opportunities and oceanographic experience within regular degree programs in the Departments of Biology, Chemistry and Biochemistry, Economics, Civil, Construction, and Environmental Engineering, Mechanical Engineering, Geography, Geological Sciences, and the Graduate School of Public Health. Degrees in general oceanography or marine studies are not offered by the university. However, a Master of Arts or Master of Science degree may be earned as an Interdisciplinary Studies major (see the appropriate section in this bulletin).

Specific courses in oceanography (listed below) are offered with the cooperation of faculty from the participating departments. Advanced coursework and research in geological and physical oceanography are conducted in the Geological Sciences Department. Advanced courses and research in biological oceanography, marine biology, marine botany, marine ecology, and marine zoology are in the Department of Biology. The Graduate School of Public Health also offers a Master of Science degree with a concentration in Environmental Health Science with a focus on water and soil contamination and management of hazardous wastes. Marine-related coursework and research are offered in the Departments of Economics, Geography and in the College of Engineering. Students who require advising in these areas should inquire at the Coastal and Marine Institute or the appropriate department.

The Coastal and Marine Institute coordinates work in the area of marine studies and provides special supporting services to the faculty, staff, and students which includes student advising, assistance in research and publication, and a boat operations and research diving program. The director of the Coastal and Marine Institute reports to the dean of the College of Sciences. (For additional information, refer to College of Sciences in Part One.)

Courses Acceptable for Oceanography and Marine Studies
Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

Biology Courses (BIOL)
Adviser: Todd W. Anderson, Ph.D.
BIOL 515 Marine Invertebrate Biology (4)
BIOL 517 Marine Ecology (4)

Economics Course (ECON)
ECON 696 Experimental Topics (3)*

Civil Engineering Courses (CIV E)
CIV E 632 Computational Hydraulics and Hydrology (3)
CIV E 641 Advanced Foundation Engineering (3)

Geography Courses (GEOG)
Adviser: Douglas A. Stow, Ph.D.
GEOG 592 Intermediate Remote Sensing of Environment (3)
GEOG 592L Intermediate Remote Sensing of Environment Laboratory (1)
GEOG 670 Environmental Conservation Theory (3)
GEOG 770 Seminar in Environmental Conservation (3)

Public Health Courses (P H)
Adviser: Richard M. Gersberg, Ph.D.
P H 634 Environmental Protection (3)
P H 639 Water Quality Investigation (3)

* Acceptable when of relevant content.
Faculty

Mark R. Wheeler, Ph.D., Associate Professor of Philosophy, Chair of Department
Peter Atterton, Ph.D., Professor of Philosophy
J. Angelo Corlett, Ph.D., Professor of Philosophy
Robert M. Francescotti, Ph.D., Professor of Philosophy
Sandra A. Wawrytko, Ph.D., Professor of Philosophy
Thomas S. Weston, Ph.D., Professor of Philosophy
Steven L. Barbone, Ph.D., Associate Professor of Philosophy
(Graduate Adviser)
Marie E. Draz, Ph.D., Assistant Professor of Philosophy
Joseph A. Stramondo, Ph.D., Assistant Professor of Philosophy

General Information

The Department of Philosophy offers a program of graduate studies leading to the Master of Arts degree. The purpose of the M.A. program in philosophy is to provide students with rigorous advanced training in philosophical reasoning on philosophical issues. The program serves students who wish to go on to pursue Ph.D. work in philosophy or other areas of advanced study; who seek skill development for professional careers such as teaching, law, business, and public service; and who seek personal enrichment through disciplined reflection on important and profound philosophical questions.

Nota bene: Anyone applying to do graduate work in philosophy needs to be aware that there are currently many more candidates for positions in teaching philosophy than there are positions available.

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 the Graduate Bulletin. To be considered for admission to the graduate program in the Department of Philosophy with classified status, an applicant must fulfill the following requirements:

1. All students must hold a baccalaureate degree from an accredited U.S. institution or equivalent degree. The degree should be in the field of philosophy.
2. A minimum grade point average of 3.3 in upper division work in philosophy with an overall minimum grade point average of 3.0 is required.

Conditional admittance: Unusually promising students who do not meet all the above requirements may be accepted into the program with conditional status. Students who are accepted conditionally with 12-23 units of upper division philosophy will be required to take additional units (beyond the 30 units required for the M.A. degree) to meet the minimum qualification of having earned 24 units of upper division philosophy before achieving classified standing. Applicants who have an overall grade point average of 2.85-2.99 and an average of 3.3 in upper division philosophy may be considered for conditional admittance.

Students applying for admission should electronically submit the university application available at http://www.calstatel.edu/apply along with the $55 application fee.

All applicants must submit admissions materials separately to SDSU Graduate Admissions and the Department of Philosophy.

Graduate Admissions

The following materials should be submitted as a complete package directly to:
Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

1. Official transcripts (in sealed envelopes) from all postsecondary institutions attended;

   NOTE:
   - Students who attended SDSU need only submit transcripts for work completed since last attendance.
   - Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

2. GRE scores (http://www.ets.org SDSU institution code 4682);
3. English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

Department of Philosophy

The following admissions materials must be submitted electronically via DecisionDesk, http://gra.sdsu.edu/decisiondesk/:

1. Letter describing the applicant's reasons for pursuing graduate study in philosophy;
2. Sample of the applicant's writing (about 2,000 words) that provides evidence of a capacity for careful analytic thought;
3. Two letters of recommendation;
4. Curriculum vitae or resume.

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy as stated in Part Four of the Graduate Bulletin.

In order to advance to candidacy in the philosophy M.A. program, every graduate student must demonstrate reading proficiency in a language other than English. Languages may include both the formal languages of logic and mathematics and natural languages other than English (as appropriate to one's studies in philosophy). Students shall consult with the graduate adviser to determine which language is appropriate. Proficiency in a language shall be demonstrated by earning a grade of B or more in either (a) no fewer than two lower division courses in that language or (b) at least one upper division course in that language. All grades must be earned either while the student is a graduate student in the philosophy department or at an accredited college within five years prior to admission to the graduate program in philosophy. Appropriate examinations may be given when available.

To be advanced to candidacy, a student must have achieved and maintain an overall grade point average of 3.3.

Specific Requirements for the Master of Arts Degree

(Major Code: 15091) (SIMS Code: 115301)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Four of the Graduate Bulletin, the student must complete a program of 30 units of graduate coursework (500-799) selected with the approval of the graduate adviser. Students must complete a minimum of 24 units from courses in philosophy. The 24 units shall include Philosophy 521, 799A, and a minimum of 12 units in 600-level courses.
At the beginning of every fall semester, every new graduate student is expected to attend an orientation designed to familiarize students with the program and to help them to get to know the faculty and other students in the program.

All courses taken to satisfy the master's degree requirements must be taken for a letter grade when this option is available. Graduate students must maintain at least a 3.0 grade point average in graduate courses taken in the degree program and may not advance to candidacy with less than a 3.3 grade point average. Grades of C or better for graduate courses are accepted for graduate credit. A grade point average below 3.0 at any time during a graduate student's studies is considered unsatisfactory and will result in the student's being placed on academic probation for the following semester. Students who are still achieving a grade point average below 3.0 at the end of the probationary period are subject to immediate dismissal from the program.

To be eligible to enroll in Philosophy 799A, a student must be advanced to candidacy. Each student will arrange for a committee of no less than three tenured/tenure track SDSU faculty members (two of these necessarily must be from the Philosophy Department; one of the three must be from outside the Philosophy Department). One faculty member from the Philosophy Department will serve as the chair/director of the thesis.

Courses Acceptable for Master's Degree Program in Philosophy (PHIL)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

PHIL 505. Nineteenth-Century European Philosophy (3)
Prerequisite: Upper division or graduate standing. Major European philosophers of the nineteenth century. May include Hegel, Kierkegaard, Marx, Mill, Nietzsche, and Schopenhauer. (Formerly numbered Philosophy 414.)

PHIL 506. Twentieth-Century Continental Philosophy (3)
Prerequisite: Upper division or graduate standing. Major figures and movements in European philosophy from Husserl to the present.

PHIL 508. Existentialism (3)
Prerequisite: Upper division or graduate standing. The philosophical aspects of existentialism. Major emphasis is on the diversity of thought within a common approach as this is shown in individual thinkers.

PHIL 509. Theory of Ethics (3)
Prerequisite: Upper division or graduate standing. Advanced topics in ethical theory, including normative ethics and meta-ethics. May include historical or contemporary readings or both. Issues may include content of moral value, nature of moral judgment, and accounts of virtue and right action. (Formerly numbered Philosophy 528.)

PHIL 510. Philosophy of Law (3)
Prerequisite: Upper division or graduate standing. Philosophical and ethical investigation into the nature of law, rights, duty, responsibility, and punishment.

PHIL 512. Political Philosophy (3)
Prerequisite: Upper division or graduate standing. Selected aspects of the political structures within which we live, such as law, power, sovereignty, justice, liberty, welfare.

PHIL 514. Philosophy of Art (3)
Prerequisite: Upper division or graduate standing. The nature of aesthetic experience. Principal Western theories of art in relation to actual artistic production and to the function of art in society. (Formerly numbered Philosophy 542.)

PHIL 515. Philosophy of Film (3)
Prerequisite: Upper division or graduate standing. Investigation into metaphysical, aesthetic, and epistemological dimensions of film. Narration, authorship, cognitive and emotional engagement, social and philosophical ramifications.

PHIL 516. Non-Western Aesthetics (3)
Prerequisite: Upper division or graduate standing. How non-Western cultures developed aesthetic theories complementing, challenging, or expanding more familiar Amero-eurocentric theories. Historical and contemporary works representing a spectrum of non-Western philosophies.

PHIL 521. Deductive Logic (3)
Prerequisite: Philosophy 120. Principles of inference for symbolic deductive systems; connectives, quantifiers, relations and sets. Interpretations of deductive systems in mathematics, science and ordinary language. Not open to students with credit in Mathematics 523.

PHIL 523. Theory of Knowledge (3)
Prerequisite: Upper division or graduate standing. Philosophical analysis of knowledge, including conceptions of belief, justification, and truth.

PHIL 530. Metaphysics (3)
Prerequisite: Upper division or graduate standing. Prominent theories of reality, e.g., realism and nominalism, materialism and idealism, teleology and determinism. (Formerly numbered Philosophy 525.)

PHIL 534. Philosophy of Language (3)
Prerequisite: Upper division or graduate standing. An introduction to theories of meaning for natural languages and formal systems; concepts of truth, synonymy and analytically; related epistemological and ontological problems. (Formerly numbered Philosophy 531.)

PHIL 535. Philosophy of Religion (3)
Prerequisite: Upper division or graduate standing. Philosophical analysis of the nature and existence of God.

PHIL 536. Philosophy of Mind (3)
Prerequisite: Upper division or graduate standing. Prominent theories regarding relation between mind and body. Varieties of dualism considered along with major materialist rivals.

PHIL 537. Philosophy of Science (3)
Prerequisite: Upper division or graduate standing. The basic concepts and methods underlying contemporary scientific thought. contributions of the special sciences to a view of the universe as a whole.

PHIL 556. Asian Philosophies (3)
Prerequisite: Upper division or graduate standing. Dimensions of Asian philosophies, past and present. Encounter between Buddhism and post-modern science, contemporary Asian philosophers ("global gurus") and their impact on non-Asian cultures, enigmatic notion of emptiness (sunya, wu). See Class Schedule for specific topic. May be repeated with new content. Maximum credit six units.

PHIL 575. A Major Philosopher (3)
Prerequisite: Upper division or graduate standing. The writings of one major philosopher. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to the major. Maximum credit six units applicable to a master's degree.

PHIL 576. A Major Philosophical Tradition (3)
Prerequisite: Upper division or graduate standing. Focused study of a major philosophical tradition (e.g., Platonism, Confucianism, positivism). May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to the major. Maximum credit six units applicable to a master's degree.

PHIL 577. A Major Philosophical Problem (3)
Prerequisite: Upper division or graduate standing. Focused study of a major philosophical problem (e.g., the problem of evil, the problem of other minds, the existence of God). May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to the major. Maximum credit six units applicable to a master's degree.
PHIL 578. Philosophical Methods (3)
Prerequisite: Upper division or graduate standing.
Focused study of major philosophical methods (e.g., uncertain inferences and non-bivalent logics, phenomenological method, deconstruction). May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to the major. Maximum credit six units applicable to a master's degree.

PHIL 596. Selected Topics (3)
Prerequisite: Upper division or graduate standing.
A critical analysis of a major problem or movement in philosophy. 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 applicable to the major in philosophy. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

PHIL 599. Special Study (1-3)
Prerequisite: Upper division or graduate standing.
Directed individual study in philosophy on a theme or topic chosen in consultation with the instructor. Maximum credit six units. Maximum combined credit six units of Philosophy 599 and 798 applicable to the M.A. degree in Philosophy.

GRADUATE COURSES

PHIL 600. Seminar in the History of Philosophy (3)
Prerequisite: Graduate standing in philosophy.
A major philosopher, school, or problem. Their historical roots and subsequent historical significance. See Class Schedule for specific content. May be repeated with new content. Maximum credit 12 units applicable to a master's degree.

PHIL 610. Seminar in Philosophical Problems: Values (3)
Prerequisite: Graduate standing in philosophy.
Problems in such fields as ethics, politics, aesthetics. See Class Schedule for specific content. May be repeated with new content. Maximum credit 12 units applicable to a master's degree.

PHIL 620. Seminar in Philosophical Problems: Knowledge and Reality (3)
Prerequisite: Graduate standing in philosophy.
A problem or group of problems in metaphysics, epistemology and logic. See Class Schedule for specific content. May be repeated with new content. Maximum credit 12 units applicable to a master's degree.

PHIL 630. Seminar in Current Philosophical Issues (3)
Prerequisite: Graduate standing in philosophy.
Problems in current philosophical publications. See Class Schedule for specific content. May be repeated with new content. Maximum credit 12 units applicable to a master's degree.

PHIL 650. Seminar in Teaching Philosophy (3)
Prerequisite: Graduate standing in philosophy.
Critical thinking and writing skills to teach philosophy. Syllabus construction, teaching techniques, assessment, and outcomes measurement. (Formerly numbered Philosophy 701.)

PHIL 696. Seminar in Selected Topics (3)
Prerequisite: Graduate standing in philosophy.
Intensive study in specific areas of philosophy. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

PHIL 798. Special Study (1-3) Cr/NC/RP
Prerequisites: Twelve upper division units in philosophy and consent of staff; to be arranged with department chair and instructor. Individual study. Maximum credit six units applicable to a master's degree.

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

PHIL 799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP 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.

PHIL 799C. Comprehensive Examination Extension (0) Cr/NC
Prerequisites: Completion or concurrent enrollment in degree program courses. Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.

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Physical Education
Refer to “Exercise Physiology” and “Kinesiology” in this section of the bulletin.
In the College of Health and Human Services

Physical Therapy

In the School of Exercise and Nutritional Sciences

OFFICE: Exercise and Nutritional Sciences 141
TELEPHONE: 619-594-0566 / FAX: 619-594-6553
E-MAIL: dpt@mail.sdsu.edu
https://ens.sdsu.edu

Faculty
Matthew T. Mahar, Ed.D., Professor of Exercise and Nutritional Sciences, Director of School
Mitchell J. Rauh, Ph.D., P.T., M.P.H., Professor of Exercise and Nutritional Sciences, Director of Physical Therapy Program
Michael J. Buono, Ph.D., Professor of Exercise and Nutritional Sciences
Katrina S. Maluf, Ph.D., P.T., Associate Professor of Exercise and Nutritional Sciences
Harsimran S. Baweja, Ph.D., P.T., Assistant Professor of Exercise and Nutritional Sciences
Antoinette Domingo, Ph.D., M.P.T., Assistant Professor of Exercise and Nutritional Sciences
Sara P. Gombatto, Ph.D., P.T., Assistant Professor of Exercise and Nutritional Sciences
Michael D. Rosenthal, Ph.D., P.T., Assistant Professor of Exercise and Nutritional Sciences
Lori J. Tuttle, Ph.D., M.P.T., Assistant Professor of Exercise and Nutritional Sciences

Doctoral Program

General Information
The San Diego State University Doctor of Physical Therapy (DPT) program is designed to educate clinical practitioners prepared for autonomous practice in physical therapy, and to be experts in the examination, evaluation, and intervention of movement dysfunction. Attention to physical therapy services to all ages and diverse populations, the DPT program allows qualified students to prepare as primary care physical therapists capable of practicing autonomously in a variety of environments. Students will be prepared to continue special areas of study to qualify for certification as clinical specialty practitioners. This is in support of the professional commitment as physical therapists providing quality services to the citizens of California and the San Diego region.

Program objectives of the DPT:
• Produce graduates who generate and disseminate physical therapy practice knowledge to improve clinical outcomes and to stimulate the use of research in practice;
• Prepare graduates to evaluate and translate existing evidence as a foundation for a scientifically based advanced practice;
• Graduates who are able to use physical therapy knowledge to improve clinical outcomes and as a foundation for a scientifically based advanced practice;
• Leaders in collaborative interdisciplinary teams to influence changes in practice that ensures the delivery of a holistic approach to care;
• Graduates who are prepared to influence health care systems, lead policy initiatives, and clinical practice through dissemination of knowledge, skills, and leadership that will improve the health status and outcomes for populations, and advocate for changes that can transform how physical therapy practice is delivered;
• Increase the number of physical therapists who are prepared to implement advanced practice physical therapy roles according to national standards for advanced practice and/or independent leadership in healthcare organizations and/or independent practice;

The Doctor of Physical Therapy (DPT) is a three-year program. The first two years are didactic instruction while the third year consists primarily of clinical experiences. The DPT is the entry-level degree.

Admission to the DPT Program
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 possess an undergraduate degree earned at an institution accredited by a regional accrediting association and the following:
• One year (or two semesters) of laboratory and lecture-based human anatomy and physiology courses completed within five years of the application to the DPT program;
• One year (or two semesters) of laboratory and lecture-based general and upper division biology;
• One year (or two semesters) of laboratory and lecture-based general inorganic chemistry;
• One year (or two semesters) of laboratory and lecture-based college level physics;
• One course each of general psychology and upper division psychology (preferably abnormal, child developmental, or lifespan);
• One statistics course;
• One English writing course (English composition or an upper-division writing course);
• No more than two prerequisite courses can be taken during the spring semester (or quarter) prior to commencing the program. In addition, all prerequisite coursework must be completed with a GPA of at least 3.00.

Admission criteria for a preferred applicant to the SDSU DPT program will provide evidence of and demonstrate:
• A grade point average (GPA) commensurate with graduate school admission requirements;
• A recommended minimum 3.00 overall GPA with at least a 3.00 GPA in all upper division and any graduate courses combined;
• The applicant was in good standing at the last institution of school admission requirements;
• A recommended minimum 3.00 overall GPA with at least a 3.00 GPA in all upper division and any graduate courses combined;
• The applicant was in good standing at the last institution of higher education attended.

Additional evidence considered in the admission process shall include but not be limited to:
• Graduate Record Examination (GRE) with a minimum score of 300 (verbal and quantitative combined) and a minimum score of 4.0 (analytical writing). Scores from the previous five years will be acceptable as valid;
• Three confidential letters of recommendation from professionals attesting to the ability, scholarship, and aptitude of the candidate for a rigorous full-time DPT program. At least one letter must be from a licensed physical therapist whom the applicant has had a professional association and can appropriately evaluate the applicant’s potential as a student in the physical therapy program. One letter must be from a professor for a course which the applicant completed. The third letter must be from a licensed physical therapist or professor as described above;
• Demonstrated evidence of exposure to the field and an appreciation of the breadth, depth, and scope of practice. This can be accomplished through either volunteer or paid work experience in a physical therapy setting. A minimum of 100 observation hours must be completed under the supervision of a licensed physical therapist. Observation in two or more different types of physical therapy settings (e.g., pediatric and orthopedic, rather than two different orthopedic settings) is highly recommended;
• A written statement of purpose reflecting understanding of the challenges facing DPT practice and willingness to work with diverse clients in a variety of physical therapy settings;
• A written statement from the applicant outlining their professional goals and reasons for selecting physical therapy as a career.

The Doctor of Physical Therapy program at San Diego State University does not participate in the Physical Therapist Centralized Application Service (PTCAS). Students applying for admission should electronically submit the university application available at [http://www.calstate.edu/apply](http://www.calstate.edu/apply) along with the $55 application fee. Graduate Admissions and to the SDSU DecisionDesk website.

**Doctor of Physical Therapy**

The following admissions materials* must be completed or submitted electronically via DecisionDesk ([http://decisiondesk.sdsu.edu](http://decisiondesk.sdsu.edu)) by the December application deadline for admission to the fall semester:

1. Official transcripts (in sealed envelopes) from all postsecondary institutions attended;
   • Students who attended SDSU need only submit transcripts for work completed since last attendance.
   • Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.
   • Students who attended SDSU need only submit transcripts for work completed since last attendance.
2. GRE scores ([http://www.ets.org](http://www.ets.org) SDSU institution code 4682);
3. English language score, if medium of instruction was in a language other than English ([http://www.ets.org](http://www.ets.org) SDSU institution code 4682).

**Graduate Admissions**

The following materials must be submitted directly to:
Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;

NOTE:
• Students who attended SDSU need only submit transcripts for work completed since last attendance.
• Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

(2) GRE scores ([http://www.ets.org](http://www.ets.org) SDSU institution code 4682);
(3) English language score, if medium of instruction was in a language other than English ([http://www.ets.org](http://www.ets.org) SDSU institution code 4682).

**Special Requirement for the Doctor of Physical Therapy Degree**

(Major Code: 12122) (SIMS Code: 556529)

The Doctor of Physical Therapy (DPT) is a professional and not a research degree. Students in the program will be involved in evidence-based practice/translational research projects as part of coursework and clinical internship. Students are expected to complete the program in three years while attending full-time as there is no part-time program. The number of units for the DPT program of study is 121 units.

**FALL SEMESTER I (19 Units)**

DPT 710 Foundations of Physical Therapy Evaluation (4)
DPT 725/750 Concepts in Physiology, Pathophysiology, and Pharmacology (4)
DPT 780 Integumentary Therapeutics (4)
DPT 881 Evidence-Based Practice I: Principles and Clinical Applications (3)

**SPRING SEMESTER I (19 Units)**

DPT 726/750 Concepts in Physiology, Pathophysiology, and Pharmacology (4)
DPT 887 Professional Development in Physical Therapy Practice (3)

**SUMMER I (12 Units)**

- Session 1:
  DPT 857 Prosthetics and Orthotics (2)
  DPT 880 Differential Diagnosis in Physical Therapy (3)
  DPT 887 Professional Development in Physical Therapy Practice (3)

- Session 2:
  DPT 801 Clerkship (3) Cr/NC
  DPT 897 Doctoral Research (1) Cr/NC

**FALL SEMESTER II (18 Units)**

DPT 802 Life Cycle I (2)
DPT 820 Musculoskeletal Therapeutics I (4)
DPT 830 Cardiopulmonary Therapeutics (4)
DPT 835 Neurophysiological Therapeutics I (4)
DPT 885 Evidence-Based Practice III, Case Presentations (3)
DPT 897 Doctoral Research (1) Cr/NC

**SPRING SEMESTER II (19 Units)**

DPT 803 Life Cycle II (2)
DPT 821 Musculoskeletal Therapeutics II (4)
DPT 836 Neurophysiological Therapeutics II (3)
DPT 875 Medical Therapeutics in Physical Therapy Practice (3)
DPT 887 Psychosocial Aspects of Rehabilitation (3)
DPT 888 Evidence-Based Practice IV: Advanced Clinical Reasoning (3)
DPT 897 Doctoral Research (1) Cr/NC

**SUMMER II (10 Units)**

- Session 1:
  DPT 822 Interventions in Musculoskeletal Therapeutics (3)
  DPT 837 Interventions in Neuromuscular Therapeutics (3)
  DPT 868 Physical Therapy Organization and Administration (3)

- Session 2:
  DPT 897 Doctoral Research (1) Cr/NC

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* Forms for the materials are available on the DPT program website: [https://ens.sdsu.edu/dpt/prospective/application_process](https://ens.sdsu.edu/dpt/prospective/application_process).

**Advancement to Candidacy**

All students must (1) Meet the general requirements for advancement to candidacy as required by San Diego State University; and (2) Successfully complete all required courses and the comprehensive examination for the first two years of study and complete the qualifying process.

**Specific Requirements for the Doctor of Physical Therapy Degree**

All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the SDSU DecisionDesk website.
Physical Therapy

FALL III SEMESTER (12 Units)

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<thead>
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Courses Acceptable for DPT Degree Program in the School of Exercise and Nutritional Sciences (DPT)

Refer to Courses and Curricula of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

GRADUATE COURSES

DPT 710. Foundations of Physical Therapy Evaluation (4)
Two lectures and six hours of laboratory.
Prerequisite: Admission to the DPT program.
Problem solving and psychomotor skills to perform general physical examination. Concepts, procedures, and techniques required to provide safe and effective patient care.

DPT 725. Clinical Anatomy I (4)
(Same course as Biology 725)
Three lectures and three hours of laboratory.
Prerequisite: Admission to the DPT program.
Applied anatomy of upper and lower extremities of the human body; joint anatomy and mechanics, anatomical structures to produce articular movement to include muscles, arterial, peripheral nervous systems, and articular and extremity movement patterns.

DPT 726. Clinical Anatomy II (4)
(Same course as Biology 726)
Three lectures and three hours of laboratory.
Prerequisite: Admission to the DPT program.
Axial portion of the human body; biomechanics of the spinal column to include head and neck, thorax, related viscera, and abdomen-pelvic region.

DPT 750. Concepts in Physiology, Pathophysiology, and Pharmacology (4)
Prerequisite: Admission to the DPT program or master's degree program in kinesiology.
Normal physiology, diseases, disorders, and injuries. Pathological processes, specific organ system pathology, multisystem pathology, and pharmacological concepts.

DPT 760. Neurosciences (4)
Prerequisites: Doctor of Physical Therapy 725 [or Biology 725] and 750.
Anatomy and physiology of central nervous system; substrates and processes of movement.

DPT 780. Integumentary Therapeutics (4)
Two lectures and six hours of laboratory.
Prerequisite: Admission to the DPT program.
Anatomy, physiology, pathology, mutability of human biological tissues in the rehabilitation process.

DPT 782. Therapeutic Exercise (4)
Two lectures and six hours of laboratory.
Prerequisites: Doctor of Physical Therapy 710, 725 [or Biology 725], 750, 780, 881.
Therapeutic exercise as it applies to clinical practice of physical therapy.

DOCTORAL COURSES

DPT 801. Clerkship (3) Cr/NC
Prerequisites: Successful completion of all coursework up to Doctor of Physical Therapy 801, Clerkship.
Cognitive, psychomotor, and affective skills of physical therapy practice in a clinical setting.

DPT 802. Life Cycle I (2)
Prerequisite: Doctor of Physical Therapy 801.
Age-related changes from young adulthood to senescence; analysis of resultant functional limitations.

DPT 803. Life Cycle II (2)
Prerequisite: Doctor of Physical Therapy 802.
Normal and delayed maturation processes from conception through adulthood; nervous, cardiovascular, and musculoskeletal systems.

DPT 820. Musculoskeletal Therapeutics I (4)
Two lectures and six hours of laboratory.
Prerequisite: Doctor of Physical Therapy 801.
Examination, diagnosis, and management of lower and upper extremities, and spinal musculoskeletal disorders.

DPT 821. Musculoskeletal Therapeutics II (4)
Three lectures and three hours of laboratory.
Prerequisite: Doctor of Physical Therapy 820.
Clinical principles and concepts for management of orthopedic, sports, and industrial injuries.

DPT 822. Interventions in Musculoskeletal Therapeutics (3)
Two lectures and three hours of laboratory.
Prerequisite: Doctor of Physical Therapy 821.
Analysis of interventions used to treat clients with dysfunctions of the musculoskeletal system.

DPT 830. Cardiopulmonary Therapeutics (4)
Three lectures and three hours of laboratory.
Prerequisite: Doctor of Physical Therapy 801.
Electrocardiography, exercise testing, and exercise prescription for patient populations suffering from acute or chronic illness.

DPT 835. Neuropsychological Therapeutics I (4)
Three lectures and three hours of laboratory.
Prerequisite: Doctor of Physical Therapy 801.
Neurological deficits in adults and children secondary to upper motor-neuron dysfunction.

DPT 836. Neuropsychological Therapeutics II (3)
Two lectures and three hours of laboratory.
Prerequisite: Doctor of Physical Therapy 835.
Scientific theory pertaining to composite impairments of neurologic patients, with application of motor-control theory to neurorehabilitation.

DPT 837. Interventions in Neuromuscular Therapeutics (3)
One lecture and six hours of laboratory.
Prerequisite: Doctor of Physical Therapy 836.
Interventions used to treat clients with dysfunctions of the neuromuscular system.

DPT 857. Prosthetics and Orthotics (2)
Prerequisite: Doctor of Physical Therapy 886.
Design, fabrication, and fitting of orthotic and prosthetic devices.

DPT 868. Physical Therapy Organization and Administration (3)
Prerequisite: Doctor of Physical Therapy 801.
Designing, equipping, and staffing a physical therapy practice or department. Budget development, cost accounting, supervisory functions, evaluation techniques, and quality assurance. Business strategies and skills for practice setting. Local, national, economic, and political pressures on delivery of physical therapy services.

DPT 875. Medical Therapeutics in Physical Therapy Practice (3)
Prerequisite: Doctor of Physical Therapy 830.
Contemporary medical interventions for physical therapy practice.

DPT 876. Psychosocial Aspects of Rehabilitation (3)
Prerequisite: Admission to the DPT program.
Adjustment to physical disability and terminal illness. Development of communication and ethical decision-making skills.

DPT 880. Differential Diagnosis in Physical Therapy (3)
Prerequisites: Doctor of Physical Therapy 710, 725 [or Biology 725], 750.
Musculoskeletal conditions, medical pathological problems, and/or co-morbidities affecting clinical decision-making.

DPT 881. Evidence-Based Practice I: Principles and Clinical Applications (3)
Prerequisite: Admission to the DPT program.
Preparation as a consumer of the professional literature in physical therapy.
DPT 882. Evidence-Based Practice II: Research Applications (3)
Prerequisite: Doctor of Physical Therapy 881.
Use of evidence in current physical therapy practice.

DPT 885. Evidence-Based Practice III: Case Presentations (3)
Prerequisite: Doctor of Physical Therapy 801.
Patient case and analysis of evidence from clinical interactions between student and client.

DPT 886. Functional Neuro-Biomechanical Relationships (4)
Prerequisite: Admission to the DPT program or master's degree program in kinesiology.
Structures of the musculoskeletal system and individual functional regions. Forces sustained in normal and pathological conditions.

DPT 887. Professional Development in Physical Therapy Practice (3)
Prerequisite: Admission to the DPT program.
Professional physical therapy at individual and societal levels.

DPT 888. Evidence-Based Practice IV: Advanced Clinical Reasoning (3)
Prerequisites: Doctor of Physical Therapy 882 and 885.
Integrate evidence, patient values, and clinical expertise to critically analyze clinical decision making for complex patient cases across broad range of practice settings.

DPT 889. Doctoral Project (2-2) Cr/NC
Prerequisites: Admission to the DPT program and completion of all prior DPT coursework.
Final paper or project on an in-depth clinical or research problem related to the physical therapy profession, presented to a professional audience.

DPT 895. Clinical Internship (10-10) Cr/NC
Prerequisite: Successful completion of all DPT coursework.
Clinical internship in physical therapy.

DPT 897. Doctoral Research (1) Cr/NC
Prerequisite: Admission to the DPT program.
Investigation to the general field of the doctoral project.
In the College of Sciences

Physics

OFFICE: Physics 131
TELEPHONE: 619-594-6240 / FAX: 619-594-5485
E-MAIL: physicsinfo@sdsu.edu
http://www.physics.sdsu.edu

Faculty
Usha S. Sinha, Ph.D., Professor of Physics, Chair of Department
Fridolin Weber, Ph.D., Albert W. Johnson Distinguished Professor of Physics, Associate Chair of Department (Graduate Adviser)
Jeffrey A. Davis, Ph.D., Professor of Physics, Director of Electro-Optics Program
Calvin W. Johnson, Ph.D., Professor of Physics
Alan R. Sweedler, Ph.D., Professor of Physics, Director of Center for Energy Studies, and Associate Vice President for International Programs
Milton S. Torikachvili, Ph.D., Professor of Physics
Matthew E. Anderson, Ph.D., Associate Professor of Physics
[Senate Distinguished Professor]
Arlette R.C. Bailon, Ph.D., Associate Professor of Physics
Mauro Tambasco, Ph.D., Associate Professor of Physics
Lyuba Pavlovna Kuznetsova, Ph.D., Assistant Professor of Physics
Kenneth M. Nollett, Ph.D., Assistant Professor of Physics
Kyle Sundqvist, Ph.D., Assistant Professor of Physics

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

General Information
The Department of Physics offers graduate study leading to the Master of Arts degree in physics, the Master of Science degree in physics, and the Master of Science degree in medical physics.

The Master of Arts degree emphasizes broad training and intensive coursework. This is a non-thesis program designed to lead the student to a comprehensive final examination. Specific courses, in both pure and applied physics, are chosen to complement the background of the individual student and achieve the desired educational goals. The program is designed to provide students with university-level teaching experience and access to community college teaching positions.

The Master of Science degree emphasizes research experience in a chosen specialty. It is designed to augment the student's undergraduate training with a core curriculum of advanced courses, then followed by a period of research and preparation of a thesis. Thesis topics are encouraged in both pure and applied areas of physics. The program is designed to provide students with university-level teaching experience and access to community college teaching positions.

The Master of Science degree in medical physics is designed to train physicists in the use of radioactive materials and radiation-producing devices such as those used in hospitals and related medical facilities, colleges and universities, industry, public health services, nuclear power installations, the military, the Department of Energy, the Environmental Protection Agency, and the Nuclear Regulatory Commission. The program emphasizes techniques of radiation dosimetry, and instrumentation in addition to the fundamental physics of radiation production and protection.

Admission to Graduate Study
Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.

All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the Department of Physics.

Graduate Admissions
The following materials should be submitted as a complete package directly to:
Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;

NOTE:
- Students who attended SDSU need only submit transcripts for work completed since last attendance.
- Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

(2) GRE scores (http://www.ets.org SDSU institution code 4682);

(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

Department of Physics

Master of Science Degree in Medical Physics

Master of Science Degree in Physics

Admission to the Degree Curriculum
All students must satisfy the general requirements for admission to the university with classified graduate standing, as described in Part Two of this bulletin. In addition, the undergraduate preparation in physics must have substantially satisfied the undergraduate requirements for the bachelor's degree in physics. (Refer to the General Catalog for a description of these majors.) If the student's undergraduate preparation is deficient, he/she will be required to take courses for the removal of the deficiency. These courses are in addition to the minimum of 30 units for the master's degree.

Advancement to Candidacy
All students must satisfy the general requirements for advancement to candidacy, as stated in Part Four of this bulletin, and satisfactory completion of Physics 604, 606, 608, and 610A.
Specific Requirements for the Master of Arts Degree in Physics

(Major Code: 19021) (SIMS Code: 777702)

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 Four of this bulletin. The student's graduate program must include Physics 604, 606, 608, and 610A. Eighteen additional units of 500-, 600- or 700-numbered electives must be selected with the approval of the Physics department graduate adviser. The Master of Arts degree in physics requires the completion of Plan B, a comprehensive written examination.

Specific Requirements for the Master of Science Degree in Physics

(Major Code: 19021) (SIMS Code: 777701)

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 Four of this bulletin. The student must complete a graduate program to include Physics 604, 606, 608, 610A, 797 (3 units) and 799A. Twelve additional units of 500-, 600-, or 700-numbered electives must be selected with the approval of the Physics department graduate adviser. The student is required to pass a final oral examination on the thesis.

Master of Science Degree in Medical Physics

Admission to the Degree Curriculum

All students must satisfy the general requirements for admission to the Division of Graduate Affairs with classified graduate standing, as described in Part Two of this bulletin under Admission to the Division of Graduate Affairs. In addition, the undergraduate preparation in biology, chemistry, mathematics, and physics must have substantially satisfied the undergraduate requirements for a baccalaureate degree in the life sciences or the physical sciences so that satisfactory progress can be made toward the master's degree. If the student's undergraduate preparation is deficient, he will be required to take courses for the removal of the deficiency. These courses are in addition to the minimum of 30 units for the master's degree.

Advancement to Candidacy

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

Specific Requirements for the Master of Science Degree in Medical Physics

(Major Code: 12251) (SIMS Code: 777769)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Four of this bulletin, the student must meet the following requirements:

1. The student must complete a graduate program to include Physics 560, 565, 567, 670A, 670B. Fifteen additional units of 500-, 600-, or 700-numbered electives must be selected with the approval of the Physics department graduate adviser (maximum six units at the 500-level).
2. The thesis option (Plan A) requires the approval of the graduate adviser. Students in Plan A must include Physics 797 and Physics 799A in the 30-unit program, and are required to pass a final oral examination on the thesis. Students in Plan B (non-thesis option) are required to pass a comprehensive written examination.

Residency Training in Radiation Therapy

Physics Certificate

(Offered through the College of Extended Studies)

(SIMS Code: 777740)

The advanced certificate in residency training in radiation therapy physics provides students training in clinical and didactic radiation oncology physics to attain a level of competency that they can take on the responsibilities of a radiation oncology physicist in a clinic. Students will train in the clinic in dosimetry, brachytherapy, machine quality assurance (QA) and calibration, treatment planning and dose calculations, radiation safety, imaging, and special procedures (stereotactic radiosurgery, total skin electron treatment, etc.). Training will also include acceptance testing, commissioning, quality assurance of various major clinic systems (linac, brachytherapy, treatment planning systems, etc.), and radiation safety/regulatory issues.

A student wishing to be admitted to this certificate program must meet the General Admission Requirements as described in Part Two of this bulletin. Students must meet the professional, personal, scholastic, and other standards prescribed by the appropriate department and the Graduate Council. The admission minimum requirement is a master’s degree in physics or medical physics with a 3.5 GPA or better.

Required courses (36 units): Physics 701, 703, 705, and 707.

For more information, contact the physics department at http://www.physics.sdsu.edu.

Courses Acceptable for Master’s Degree

Programs in Physics (PHYS)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

PHYS 538. Polymer Science (3)
(Same course as Chemistry 538)
Prerequisites: Chemistry 200 or 202, and credit or concurrent registration in Chemistry 410B or Physics 360 or Mechanical Engineering 350.
Structure, synthesis, physical properties, and utilities of polymers and biopolymers.

PHYS 552. Modern Optics and Lasers (3)
Prerequisites: Physics 406 with minimum grade of C; credit or concurrent registration in Physics 400B.
Electromagnetic theory, matrix methods of optics, propagation of Gaussian beams, optical resonators, interaction of radiation and atomic systems, theory of laser oscillation, nonlinear optics, specific laser systems, optical detectors, applications of lasers in physics.

PHYS 553. Modern Optics Laboratory (3)
One lecture and six hours of laboratory.
Prerequisites: Physics 357 with minimum grade of C; Physics 406 with minimum grade of C; credit or concurrent registration in Physics 552.
Experiments in various fields of modern optics such as holography, physics of lasers, Fourier transform spectroscopy, Raman spectroscopy, light modulation techniques, fiber optics, spatial filtering, diffraction grating spectroscopy, radiometry, and nonlinear optics.

PHYS 560. Radiological Physics and Dosimetry (3)
Prerequisite: Credit or concurrent registration in Physics 354.
Ionizing radiation fields, interactions of radiation with matter, cavity theory, external radiation dosimetry.
PHYS 561. Nuclear Instrumentation (3)
One lecture and six hours of laboratory.
Prerequisites: Physics 311 and 560.
Radiation detection, measurement, and spectroscopy, ionization chambers, GM and proportional counters, scintillation and semiconductor detectors, and thermoluminescent dosimetry.

PHYS 564. Nuclear Physics (3)
Prerequisite: Credit or concurrent registration in Physics 410.
Nuclear and elementary particle phenomena including nuclear structure, decay, and radioactivity. Nuclear reactions and devices. Experimental methods and applications.

PHYS 565. Radiobiology and Radiation Safety (3)
Prerequisites: Credit or concurrent registration in Physics 560 and consent of instructor.
Effects of ionizing radiation on physical and biological systems in medical imaging and radiation therapy. Associated radiation safety precautions.

PHYS 567. Nuclear Medicine Physics (3)
Prerequisite: Physics 560.
Physical principles of nuclear medicine and operating principles of nuclear medicine instrumentation. Radionuclide production, dose calibrators, well counters, gamma cameras, SPECT, PET, image quality, tomographic reconstruction, and image processing.

PHYS 570. Relativity (3)
Prerequisites: Physics 254 and 400B.
Relative coordinates, Lorentz transformation, covariant formation of the laws of physics, applications of special relativity, introduction to curved space time, cosmology.

PHYS 580. Computational Physics (3)
Prerequisites: Physics 354; Computer Engineering 160; and credit or concurrent registration in Physics 400A.
Computer programming for numerical solution of problems in classical mechanics, electromagnetism, optics, and quantum mechanics. Use of Fortran and C programming languages and the UNIX operating system. Incorporation of standard subroutines for linear algebra and differential equations into student written programs.

PHYS 596. Special Topics in Physics (1-4)
Prerequisite: Consent of instructor.
Selected topics in classical and modern physics. May be repeated with the consent of the instructor. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit of six units of 596 applicable to a bachelor's degree. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

GRADUATE COURSES

PHYS 604. Electromagnetic Theory (3)
Prerequisite: Physics 400B.
Electrostatics, magnetic induction, and magnetostatics, Maxwell's equations, electromagnetic waves and radiation, fields in macroscopic media, special relativity.

PHYS 606. Statistical Mechanics (3)
Prerequisites: Physics 360, 410, 608.

PHYS 608. Classical Mechanics (3)
Prerequisites: Physics 350 and Mathematics 342B.
Vector and tensor methods, motion of rigid bodies, vibration, coupled circuits, Lagrange's and Hamilton's equations, principle of least action.

PHYS 610A. Quantum Mechanics (3-3)
Prerequisite: Physics 410.
Physical and mathematical basis of quantum mechanics. Wave mechanics and the Schrödinger Equation, matrices and Hilbert space, angular momentum and spin, atomic structure, bound-state perturbation theory, many particle systems, transition rates and time-dependent perturbation theory, scattering, and relativistic quantum mechanics.

PHYS 670A-670B. Medical Physics (3-3)
Prerequisites: Physics 560 and 561.
Radiological physics, dosimetry, imaging, and radiation protection in medical environments including diagnostic radiology, nuclear medicine, and radiation oncology.

PHYS 672A. Radiation Therapy Physics Laboratory (3)
One lecture and six hours of laboratory.
Prerequisite: Physics 670A.
Skills to perform radiation therapy physics procedures.

PHYS 672B. Diagnostic Imaging Laboratory (3)
One lecture and six hours of laboratory.
Prerequisite: Physics 670B.
Skills to perform quality assurance and acceptance testing on radiological equipment in a clinical setting.

PHYS 674. Radiation Treatment Planning (3)
Two lectures and three hours of laboratory.
Prerequisite: Biology 335.
Fundamental and practical concepts in radiation treatment planning. Hands on experience in clinical treatment planning for external beam radiotherapy.

PHYS 680. Magnetic Resonance Imaging (3)
Prerequisites: Physics 670B or Mathematics 342A and Physics 354.
Nuclear magnetic resonance, relaxation theory, Fourier transform MR imaging physics, imaging sequences, optimization of signal and contrast, special imaging sequences to include MR angiography, functional MRI, diffusion and perfusion MRI, MR hardware and configuration.

PHYS 690. Medical Imaging Processing (3)
Two lectures and three hours of laboratory.
Prerequisite: Physics 670B.
Digital image processing to include medical image formats, image enhancement, restoration, registration, segmentation, representation, and programming.

PHYS 696. Advanced Topics in Physics (1-3)
Prerequisite: Consent of instructor.
Intensive study in specific areas of physics. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

PHYS 701. Clinical Rotations I (9) Cr/NC
(Offered only in the College of Extended Studies)
Prerequisites: Physics 564, 567, 672A, 672B.
On-site, full-day clinical training in external beam modalities (megavoltage photons, electrons, superficial x-rays) including equipment selection, radiation protection, acceptance/commissioning, calibration and quality assurance. Theoretical basis and use of the various detectors and dosimeters associated with external beam modalities.

PHYS 703. Clinical Rotations II (9) Cr/NC
(Offered only in the College of Extended Studies)
Prerequisite: Physics 701.
On-site, full-day clinical training in intensity modulated radiation therapy (IMRT) and brachytherapy. Training in quality assurance, calibration, inverse planning, IMRT delivery, and radiation safety. Radionuclides and sealed sources in brachytherapy, clinical applications of the sources, treatment planning, and quality assurance.

PHYS 705. Clinical Rotations III (9) Cr/NC
(Offered only in the College of Extended Studies)
Prerequisite: Physics 703.
On-site, full-day clinical training in the principles of computed tomography (CT) simulator, associated radiation protection/design considerations, CT protocols. Understand the physics of imaging modalities and perform quality assurance on CT, MRI, ultrasound and PET as related to radiation therapy. Train on picture archiving and communication systems.
PHYS 707. Clinical Rotations IV (9) Cr/NC
(Offered only in the College of Extended Studies)
Prerequisite: Physics 705.
On-site, full-day clinical training covering physics concepts and
implementation of standard radiation treatment (RT) techniques for
common cancer treatment sites, routine quality assurance associated
with patient specific RT and planning, special RT procedures, quality
assurance of RT planning systems, patient safety with respect to
radiation therapy.

PHYS 797. Research (1-3) Cr/NC/RP
Prerequisite: Consent of graduate adviser.
Research in one of the fields of physics. Maximum credit six units
applicable to a master's degree.

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

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

PHYS 799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned
grade symbol of RP.
Registration required in any semester or term following assignment
of RP 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.

PHYS 799C. Comprehensive Examination Extension (0) Cr/NC
Prerequisite: Completion or concurrent enrollment in degree
program courses.
Registration required of students whose only requirement is
completion of the comprehensive examination for the master's
degree. Registration in 799C limited to two semesters.

Policy Studies in Language and Cross-Cultural Education
Refer to “Education: Dual Language and English Learner Education” in this section of the bulletin.
Political Science
In the College of Arts and Letters

OFFICE: Nasatir Hall 126
TELEPHONE: 619-594-6244 / FAX: 619-594-7302

Faculty
Ronnee D. Schreiber, Ph.D., Professor of Political Science, Chair of Department
Farid Abdel-Nour, Ph.D., Professor of Political Science
Brian E. Adams, Ph.D., Professor of Political Science
Mikhail A. Alexseev, Ph.D., Professor of Political Science
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Ronald F. King, Ph.D., Professor of Political Science
Ahmet T. Kuru, Ph.D., Professor of Political Science
Madhavi M. McCall, Ph.D., Professor of Political Science
and Associate Dean of the College of Arts and Letters
Emanuele G. Saccarelli, Ph.D., Professor of Political Science
(Graduate Adviser)
Latha Varadarajan, Ph.D., Professor of Political Science
Carole L. Kennedy, Ph.D., Associate Professor of Political Science
Kristen Hill Maher, Ph.D., Associate Professor of Political Science
Madeline J. Baer, Ph.D., Assistant Professor of Political Science
Kimberley Fletcher, Ph.D., Assistant Professor of Political Science
Cheryl M. O’Brien, Ph.D., Assistant Professor of Political Science
Kimberly A. Twist, Ph.D., Assistant Professor of Political Science

General Information

The political science graduate program emphasizes global diversity and the interdependence between American society and politics and other nations through its curriculum in the areas of international relations, comparative politics, American politics, and political theory and methods. The department offers courses that contribute to career development in various professions including teaching, research, and consulting. Students from nations throughout the world, students in other disciplines and majors, and students from diverse social and cultural backgrounds enroll in political science graduate courses.

This graduate program provides core courses and programs of study for three distinctive groups of students: (1) Academic career students intending to enter Ph.D. programs and to pursue careers as university or college faculty or as professional researchers. (2) Community career students pursuing a master’s degree to obtain or enhance current employment including teaching, work in public agencies, business, military, law enforcement, and holding elected or appointed office. (3) Self-development students, often mature adults, pursuing a master’s degree because they enjoy studying political science and politics. These students contribute breadth and sophistication of understanding and a wealth of diverse experience to graduate seminars.

Because of the diversity of student interests, the department offers three specializations in the M. A. program. The general political science specialization provides the fundamental theoretical and analytical skills for students seeking to expand their knowledge of politics as well as those intending to pursue doctoral degrees in political science or placement in an academic setting. The specialization in public policy prepares students for further advanced study in that field and provides the skills necessary for placement in careers in both the public and private sectors. It covers such areas of American public policy as immigration policy, urban policy, environmental policy, or civil rights. The public policy internship program places students in public and private sector positions that enhance applied and theoretical knowledge. The specialization in international relations/comparative politics supplies expertise to graduate students planning to obtain a Ph.D. degree in this field or intending to seek employment with an overseas focus.

Admission to Graduate Study

All students must satisfy the general requirements for admission to the university with classified graduate standing, as described in Part Two of this bulletin. In addition, students seeking the Master of Arts degree in political science must attain a satisfactory score on the GRE General Test (minimum of 153 on the verbal portion of the test and a minimum of 153 on the quantitative portion). The department also requires that applicants submit two letters of recommendation from individuals familiar with the academic work or potential of the applicant along with a statement of purpose written by the applicant. Students should have completed 30 semester units of coursework in the social sciences, including at least 12 upper division units in political science, as approved by the department. The grade point average required for admission is 3.0 for the last 60 semester units of undergraduate work, a 3.0 grade point average in upper division courses in political science, and a 3.0 grade point average for all work taken in political science. An applicant who is deficient in any of these requirements may be considered for conditional admission. The application deadline for the fall semester is March 1.

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.

All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the Department of Political Science.

Graduate Admissions

The following materials should be submitted as a complete package directly to:

Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;

NOTE:

• Students who attended SDSU need only submit transcripts for work completed since last attendance.

• Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

(2) GRE scores (http://www.ets.org SDSU institution code 4682);

(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).
Department of Political Science

The following admissions materials must be submitted electronically via DecisionDesk, http://gra.sdsu.edu/decisiondesk/:

1. Two letters of reference;
2. Statement of purpose;
3. Writing sample (optional).

Advancement to Candidacy

All students must satisfy the general requirements for advancement to candidacy as stated in Part Four of this bulletin. In addition, students must complete the Empirical Theory and Methods sequence by fulfilling one of the following options:

1. POL S 516 and 615.
2. POL S 615. Pass an examination in statistics at the graduate level.
3. POL S 615. Pass an examination in statistics equivalent to POL S 516.
4. POL S 615. Pass an examination in a language other than one’s native language and other than English at a level approved by the department.

Specific Requirements for the Master of Arts Degree

(Major Code: 22071) (SIMS Code: 115501)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master’s degree as described in Part Four of this bulletin, the student will complete a program of study of 30 units of upper division and graduate courses as approved by the departmental graduate adviser. The program must include a minimum of 24 units in political science selected from courses listed below as acceptable for master’s degree programs. Political Science 516 and 615 and at least 18 units in 600- and 700-numbered courses, including Political Science 601, are required. Students who have previously completed Political Science 516 or 615, or the equivalent as determined by the graduate adviser, will enroll in such additional courses in political science as approved by the graduate adviser.

Students may choose either Plan A or Plan B as the culminating experience for the degree. Plan A requires the writing of a thesis and enrollment in Political Science 799A, Thesis. Plan B requires the completion of a comprehensive written and oral examination. In consultation with the graduate adviser, a student electing the Plan B option will form an examining committee consisting of a chairperson and two additional members from the political science faculty. The examining committee will prepare, administer, and grade the written examination testing the student’s general knowledge in the program of study. The oral portion of the examination will follow the committee’s review of the written examination.

Specific requirements for students selecting the general political science specialization (SIMS Code: 115501) are:

1. POL S 516 Statistics for Political Scientists (3), or equivalent.
2. POL S 615 Seminar in Research Design and Analysis in Political Science (3)
3. POL S 601 Seminar in the Scope and Methods of Political Science (3)
4. Four graduate seminars chosen from among the following:
   - POL S 603 Seminar in Foundations of Public Policy (3)
   - POL S 605 Seminar in Political Theory (3)
   - POL S 620 Seminar in American National Government (3)
   - POL S 630 Seminar in Politics (3)
   - POL S 635 Seminar in Research Design and Analysis in Political Science (3)
   - POL S 655 Seminar in General Comparative Political Systems (3)
   - POL S 658 Seminar in Post-Communist Political Systems (3)
   - POL S 661 Seminar in the Political Systems of the Developing Nations (3)
   - POL S 667 Seminar in Latin American Political Systems (3)
   - POL S 675 Seminar in International Relations (3)
   - POL S 696 Seminar in Selected Topics in Political Science (3), with permission of the graduate adviser.

5. Plan A: Political Science 799A, Thesis, and six additional units of coursework at the 500-level or above that may include transfer courses or courses outside the department, with permission of the graduate adviser.

OR

5. Plan B: Comprehensive written and oral examination. One additional seminar chosen from those listed in item 4 above and six additional units coursework at the 500-level or above that may include transfer units or courses outside of the department, with permission of the graduate adviser.

Specific requirements for students selecting the specialization in international relations/comparative politics specialization (SIMS Code: 115551) are:

1. POL S 516 Statistics for Political Scientists (3), or equivalent.
2. POL S 615 Seminar in Research Design and Analysis in Political Science (3)
3. POL S 601 Seminar in the Scope and Method of Political Science (3)
4. POL S 655 Seminar in General Comparative Political Systems (3)
5. Two graduate seminars chosen from among the following:
   - POL S 603 Seminar in Foundations of Public Policy (3)
   - POL S 605 Seminar in Political Theory (3)
   - POL S 620 Seminar in American National Government (3)
   - POL S 630 Seminar in Politics (3)
   - POL S 635 Seminar in Research Design and Analysis in Political Science (3)
   - POL S 655 Seminar in General Comparative Political Systems (3)
   - POL S 661 Seminar in the Political Systems of the Developing Nations (3)
   - POL S 667 Seminar in Latin American Political Systems (3)
   - POL S 675 Seminar in International Relations (3)
   - POL S 696 Seminar in Selected Topics in Political Science (3), with permission of the graduate adviser.

6. Plan A: Political Science 799A, Thesis, and six additional units of coursework at the 500-level or above that may include transfer courses or courses outside the department, with permission of the graduate adviser.

OR

7. Plan B: Comprehensive written and oral examination. One additional seminar chosen from those listed in item 4 above and six additional units coursework at the 500-level or above that may include transfer units or courses outside of the department, with permission of the graduate adviser.

Specific requirements for students selecting the specialization in developing nations specialization (SIMS Code: 115560) are:

1. POL S 516 Statistics for Political Scientists (3), or equivalent.
2. POL S 615 Seminar in Research Design and Analysis in Political Science (3)
3. POL S 601 Seminar in the Scope and Method of Political Science (3)
4. POL S 655 Seminar in General Comparative Political Systems (3)
5. Two graduate seminars chosen from among the following:
   - POL S 603 Seminar in Foundations of Public Policy (3)
   - POL S 605 Seminar in Political Theory (3)
   - POL S 620 Seminar in American National Government (3)
   - POL S 630 Seminar in Politics (3)
   - POL S 635 Seminar in Research Design and Analysis in Political Science (3)
   - POL S 655 Seminar in General Comparative Political Systems (3)
   - POL S 661 Seminar in the Political Systems of the Developing Nations (3)
   - POL S 667 Seminar in Latin American Political Systems (3)
   - POL S 675 Seminar in International Relations (3)
   - POL S 696 Seminar in Selected Topics in Political Science (3), with permission of the graduate adviser.

6. Plan A: Political Science 799A, Thesis, and six additional units of coursework at the 500-level or above that may include transfer courses or courses outside the department, with permission of the graduate adviser.

OR

7. Plan B: Comprehensive written and oral examination. One additional seminar chosen from those listed in item 4 above and six additional units coursework at the 500-level or above that may include transfer units or courses outside of the department, with permission of the graduate adviser.
Courses Acceptable for Master's Degree Program in Political Science (POL S)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

Field I: Political Theory

UPPER DIVISION COURSES

POL S 507. Marx and Marxism (3)
Prerequisite: Three units in political theory. Marxism examined as an important tradition of political thought and as a political movement. Theoretical and political debates in the development of Marxism, including works by Marx, Engels, Luxemburg, Lenin, and Trotsky. Contemporary significance of Marxism.

POL S 510. Contemporary Political Thought (3)
Prerequisite: Political Science 301B or 302 or 305 or 406.
Contemporary political questions and theoretical attempts to address them. Debates about justice, citizenship, and multiculturalism; as well as controversies over nature and scope of politics.

Field II: American Politics

UPPER DIVISION COURSES

POL S 530. Political Parties (3)
Prerequisite: Political Science 102 or 320.
The political party as a part of the process of government; party organization and activities; nominating and campaign methods; theories and functions of the party system; party responsibility. The functioning of political parties in the American political system. May include a substantial amount of material about foreign political systems.

POL S 531. Interest Groups and Political Movements (3)
Prerequisite: Political Science 101 or 102.
Pressure group activity, lobbies, mass movements; factors which explain origins and motivations of group behavior; votes, money, information, protest as political resources; theories of pluralism, power elite and mass society; class and ethnic politics. May include a substantial amount of material about foreign political systems.

POL S 533. Democracy in America (3)
Prerequisite: Political Science 102 or 320.
A historical and systematic examination of the democratic experience in contemporary America. Construction of American regime, arrangement of power within that regime, expansion and contraction of citizen participation, and principles that Americans generally espouse.

POL S 535. Gender and Politics (3)
Prerequisites: Political Science 101 and 102.
How gender matters in understanding key political science concepts including democracy, public/private participation and representation. Women involved in political institutions as elected officials, activists, and policy makers from U.S. and comparative perspectives.

POL S 541. Special Problems in Public Law (3)
Prerequisite: Three units selected from Political Science 346, 347A, 347B, or 348.
Issues of contemporary relevance in field of public law, examining legal, moral, and political implications.

Field III: Comparative Politics

UPPER DIVISION COURSES

POL S 550. Comparative Political Systems (3)
Prerequisite: Political Science 103.
An examination of selected political and governmental systems for purposes of comparative study and analysis to determine similarities, differences and general patterns and universals among political systems.

POL S 560. Comparative Public Policy (3)
Prerequisite: Political Science 103 or 325.
How political, social, and economic forces shape public policy in selected countries. Focus on policies related to minority and immigrant populations, environment, or poverty.

POL S 562. Religion and Politics in Comparative Perspective (3)
Prerequisite: Political Science 103.
Various types of relationships between contemporary states and religious institutions. Concepts and theories on religion and politics. Cases of state-religion interaction.

POL S 564. Political Ecology of Latin America (3)
Prerequisite: Upper division or graduate standing.
Ecology and politics of Latin America and the Caribbean. Environmental politics with related policy challenges of economic growth, equity, and social justice.

POL S 565. Nations and Nationalism (3)
Prerequisite: Upper division or graduate standing.
Debates surrounding origins, meaning and future of nationalism, and its most common embodiment, the nation-state form. Theoretical analyses of phenomenon and empirical case studies.

POL S 566. Political Change in Latin America (3)
Prerequisite: Political Science 101 or 103.
General pattern of politics and political development in Latin America with an emphasis on those features which condition domestic and foreign policy making.

POL S 568. Mexican Politics (3)
Prerequisite: Political Science 101 or 103.
Principal factors in Mexican governmental decision making. Ideology, political groups, tactics of leaders and governmental structure.

Field IV: International Politics

UPPER DIVISION COURSES

POL S 575. International Relations of the Pacific Rim (3)
Prerequisite: Political Science 362 or 375.
Dynamics of conflict and cooperation among nations of the Pacific Rim. Stress on political and economics factors that shape interstate relations.

POL S 577. Politics of International Law (3)
Prerequisite: Upper division or graduate standing.
Relationship of international law to politics. Fundamental principles of international law and normative theories of international law and politics. Historical and contemporary issues.

UPPER DIVISION COURSES

POL S 516. Statistics for Political Scientists (3)
Prerequisite: Political Science 201.
Does not fulfill undergraduate capstone major requirement. Basic concepts, theories, and methods that are utilized by political and other social scientists using statistics and microcomputers. Intermediate level introduction to statistical methods in political science.

POL S 596. Topics in Political Science (1-3)
Prerequisites: Upper division or graduate standing.
Selected topics in political science. 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

GRADUATE COURSES

POL S 601. Seminar in the Scope and Methods of Political Science (3)
The discipline of political science and systematic training in its methodology. Required of all applicants for advanced degrees in political science.

POL S 603. Seminar in Foundations of Public Policy (3)
Prerequisite: Graduate standing.
Theory and practice of the policy making process. Policy design, agenda setting, policy tools, and implementation. Examination of different methods used for policy analysis.

POL S 605. Seminar in Political Theory (3)
Maximum credit six units applicable to a master's degree.
POL S 615. Seminar in Research Design and Analysis in Political Science (3)
   Prerequisite: Graduate Standing
   Modeling and design of research projects. Theoretical understanding and logic of social science analysis. Hypothesis specification. Data collection, measurement, testing. (Formerly numbered Political Science 515.)

POL S 620. Seminar in American National Government (3)
   Maximum credit six units applicable to a master's degree.

POL S 630. Seminar in Politics (3)
   Prerequisite: Graduate Standing.
   Process by which individuals and groups make demands upon political decision makers; emphasis on the styles, structures, channels and consequences of interest articulation. Maximum credit six units applicable to a master's degree.

POL S 635. Seminar in Politics of Public Policy (3)
   Prerequisite: Graduate standing.
   How processes and outcomes of public policy relate to quality of democracy and distribution of power and resources. Debates about policy within frame of theories of justice. Focus on policy issues such as welfare, environment, housing, privatization, or others.

POL S 655. Seminar in General Comparative Political Systems (3)
   Prerequisite: Graduate standing.
   The field of comparative politics, including historical developments, major theoretical approaches, substantive concerns, uses and limitations of the comparative method, methodological innovations in study of foreign political systems.

POL S 658. Seminar in Post-Communist Political Systems (3)
   Prerequisite: Graduate standing.
   Nature of Communist political systems and processes of transition to post-communist forms of government. Possibilities for development of democratic institutions examined theoretically and empirically.

POL S 661. Seminar in the Political Systems of the Developing Nations (3)
   Prerequisite: Graduate standing.
   Theoretical analysis of political development, modernization and industrialization in the emerging nations. Search for valid generalizations about the non-Western political process. Political trends and developments in the developing nations.

POL S 667. Seminar in Latin American Political Systems (3)
   Prerequisite: Graduate standing.
   Political developments in selected Latin American nations. May be repeated with new content. Maximum credit six units applicable to a master's degree.

POL S 675. Seminar in International Relations (3)
   Maximum credit six units applicable to a master's degree.

POL S 696. Seminar in Selected Topics in Political Science (3)
   Prerequisite: Graduate standing.
   Selected topics in political science. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

POL S 795. Problem Analysis (3)

POL S 796. Internship in Public Policy (3)
   Prerequisites: Political Science 601, 603, and eighteen units on official program for M.A. degree in political science with a specialization in public policy.
   A 160-hour internship approved by instructor in public or private agency. Grade based on instructor's evaluation of supervisor's report, student consultation with instructor reviewing experience and required readings, and extensive paper relating internship experience to theories of public policy.

POL S 797. Research in Political Science (3) Cr/NC/RP
   Prerequisite: Consent of the department chair.
   Research in political theory, political parties, comparative government, international relations, public law or American government.

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

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

POL S 799B. Thesis Extension (0) Cr/NC
   Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of RP.
   Registration required in any semester or term following assignment of RP 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.

POL S 799C. Comprehensive Examination Extension (0) Cr/NC
   Prerequisite: Completion or concurrent enrollment in degree program courses.
   Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.

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Portuguese
Refer to “Spanish” in this section of the bulletin.
Faculty

Georg E. Matt, Ph.D., Professor of Psychology, Chair of Department
Mark G. Ehrhart, Ph.D., Professor of Psychology, Associate Chair of Department
Nader Amir, Ph.D., Professor of Psychology
Catherine J. Atkins, Ph.D., Professor of Psychology and Associate Dean for Academic and Faculty Affairs of the College of Sciences
Donna Castañeda, Ph.D., Professor of Psychology
Thereasa A. Cronan, Ph.D., Professor of Psychology
Thierry Devos, Ph.D., Professor of Psychology
Margaret Friend, Ph.D., Professor of Psychology
Linda C. Gallo, Ph.D., Professor of Psychology
Paul E. Gilbert, Ph.D., Professor of Psychology
Kate E. Hatrump, Ph.D., Professor of Psychology
Phillip J. Holcomb, Ph.D., Professor of Psychology
Vanessa L. Malcarne, Ph.D., Professor of Psychology, Co-Director of Clinical Training and of Doctoral Program
Nancy A. Martin, Ph.D., Professor of Psychology and University Provost Emeritus
Sarah N. Mattson Weller, Ph.D., Professor of Psychology
Robert F. McGivern, Ph.D., Professor of Psychology
Ralph-Axel Müller, Ph.D., Professor of Psychology
Claire Murphy, Ph.D., Professor of Psychology
Joseph M. Price, Ph.D., Professor of Psychology
Radmita Prislin, Ph.D., Professor of Psychology and Associate Vice President for Academic Affairs, Resource Management
Scott C. Roesch, Ph.D., Professor of Psychology
Martin I. Sereno, Ph.D., Professor of Psychology
Jennifer D. Thomas, Ph.D., Professor of Psychology (Graduate Adviser)
Jean M. Twenge, Ph.D., Professor of Psychology
V. Robin Weersing, Ph.D., Professor of Psychology
Susan M. Brasser, Ph.D., Associate Professor of Psychology (Associate Graduate Adviser)
Jeffrey M. Conte, Ph.D., Associate Professor of Psychology
Elizabeth D. Cordero, Ph.D., Associate Professor of Psychology
Lisa Kato, Ph.D., Associate Professor of Psychology
Ksenija Marinkovic, Ph.D., Associate Professor of Psychology
David M. Marx, Ph.D., Associate Professor of Psychology
Melody S. Sadler, Ph.D., Associate Professor of Psychology
Allison A. Vaughn, Ph.D., Associate Professor of Psychology
Kristen J. Wells, Ph.D., Associate Professor of Psychology
May Yeh, Ph.D., Associate Professor of Psychology (Associate Graduate Adviser)
Linda B. Abbarbanell, Ed.D., Assistant Professor of Psychology
Aaron J. Blashill, Ph.D., Assistant Professor of Psychology
Jose N. Estrada, Jr., Ph.D., Assistant Professor of Psychology
Emily S. Kappenman, Ph.D., Assistant Professor of Psychology
Dustin Thoman, Ph.D., Assistant Professor of Psychology
Jillian L. Wiggins, Ph.D., Assistant Professor of Psychology

Admission to Master's and Doctoral Study

Students applying for admission should electronically submit the university application available at http://www.calestate.edu/apply along with the $55 application fee. All applicants must submit admissions materials separately to SDSU Graduate Admissions and the Department of Psychology.

Graduate Admissions

The following materials should be submitted as a complete package directly to:
Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all post-secondary institutions attended;

NOTE:
• Students who attended SDSU need only submit transcripts for work completed since last attendance.
• Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.
(2) GRE scores (http://www.ets.org SDSU institution code 4682); (3) English language or IELTS score, if the language of instruction was not English (for English language see: http://www.ets.org; for IELTS see http://www.ielts.org; SDSU institution code 4682).

Department of Psychology

Students applying to both the SDSU/UCSD joint doctoral program and the SDSU master’s degree program are required to file only one university application and pay only one fee, which covers both programs. However, separate departmental applications, one for the master's program and one for the doctoral program, must be filed if the student wishes to be considered for both programs.

Master of Arts Degree in Psychology

For application information, please consult the program website: http://www.psychology.sdsu.edu. All application materials are submitted electronically and include the following:

1. Departmental application;
2. Statement of purpose;
3. Completed application for an assistantship (if applicant is interested in this type of financial support);
4. Three letters of recommendation from persons familiar with the applicant's academic performance.

Ph.D. Degree in Clinical Psychology

For application information, please consult the program website: http://clinpsych.sdsu.edu. All application materials are submitted electronically.

Section I.
Master's Degree Programs

Admission to the Degree Curriculum

Admission to the Department of Psychology master's program involves a two-step process. Applicants must file one application with the university, and a separate application package with the Department of Psychology. To be considered for admission to the Department of Psychology programs, applicants must satisfy particular department requirements. These requirements and instructions for completing the department application package are shown below. The department application form is available at http://www.psychology.sdsu.edu. Students are admitted to the master’s programs in the fall semester only. To qualify for admission to the master's programs in psychology, the student must have:

1. For the M.A. program: An undergraduate major in psychology (or coursework equivalent to the SDSU bachelor's degree) consisting of at least 24 upper division units with a grade point average of 3.0 or better. The major must include classes in general psychology, physiological psychology, and statistical methods. In addition, the student must have completed three of the following courses: abnormal psychology, cognitive psychology, developmental science, intermediate statistics, or an introductory course in psychology. Laboratory course, which may be selected from the above list, is also required.

2. For the M.S. applied program: An undergraduate major in psychology (or coursework equivalent to the SDSU bachelor's degree) consisting of at least 24 upper division units with a grade point average of at least 3.0. The major must include classes in general psychology, statistical methods, psychological testing and measurement, intermediate statistics or research methods, and at least one class providing research experience in psychology. In addition, the student must have completed three of the following courses: developmental science, social psychology, abnormal psychology, psychology of personality, cognitive psychology, industrial/organizational psychology, experimental psychology with laboratory, psychology of learning, or sensation and perception. Six units of upper division psychology electives, which may be from the above list, are also required.

3. A grade point average of not less than 3.0 in all undergraduate coursework.

4. A minimum score above the 50th percentile rank on both the verbal and quantitative sections of the GRE General Test.

5. The GRE should be taken by November. The GRE Subject (Advanced Test in Psychology) is optional but highly recommended to non-psychology majors. The student should take this test as well as the GRE General Test in sufficient time so that the results will be available prior to the application deadline. Meeting all of the indicated criteria does not guarantee admission to the program, since admission is also dependent on the facilities and resources available in the department.

Admission to the university, all students must satisfy the general requirements for classified graduate standing, as described in Part Two of this bulletin.

NOTE: Admission to the university does not guarantee admission to the Psychology Department.

Advancement to Candidacy

The student must satisfy the general requirements for advancement to candidacy as stated in Part Four of this bulletin. Having obtained three grades of C or lower in graduate courses automatically precludes advancement to candidacy. In addition, students must have an approved thesis proposal prior to advancement to candidacy.

General Requirements for all Master's Degree Programs

In addition to meeting the basic requirements for the master's degree as described in Part Four of this bulletin, the student must complete a graduate program of at least 30 units (36-38 units for the Master of Science degree). Only classified graduate students are permitted to enroll in any 600-numbered (or higher) courses in psychology. The departmental graduate adviser must approve all programs of study except the Master of Science in clinical psychology. For the Master of Science in clinical psychology, departmental approval is provided by the program director of the joint doctoral program. Psychology 670A-670B or 770A-770B are required in all master's degree programs in the Department of Psychology. In addition, for all degrees other than the Master of Science in clinical psychology, Psychology 600 (Research Orientation), Psychology 799A (Thesis), and an oral examination on the thesis are also required.

Specific Requirements for the Master of Arts Degree

(Major Code: 20011) (SIMS Code: 778301)

The Master of Arts degree requires the completion of a minimum of 30 units in psychology to include Psychology 610, 670A-670B or 770A-770B, 675, two units of 600, one unit of 797, and 799A. Students must also complete Psychology 561 or 760; one course selected from Psychology 587, 632, 740, 751; and two elective courses. In special cases, and by petition to the department's graduate committee, students may take up to six units of the required 30 units in 500-level and above courses in other departments. All new Master of Arts degree students are required to take two units of Psychology 600 during their first year.
Specific Requirements for the Master of Science Degree

(Major Code: 20011) (SIMS Code: 778302)

The Master of Science degree may be obtained with the following concentrations:

1. **The Applied Psychology program (SIMS Code: 778311) has two specializations:** Program Evaluation and Industrial and Organizational Psychology.

   Specific requirements for students selecting the Program Evaluation specialization (SIMS Code: 778303) are: A minimum of 38 units, 32 of which must be completed in psychology, to include Psychology 670A-670B or 770A-770B, 600 (Research Orientation, 2 units), 621 or 622, 630, 675, 791 (Internship in Applied Psychology, 6 units), and 799A (Thesis). Of the nine units of graduate electives required, at least three must be selected from psychology; six units of graduate electives may be selected from other departments with prior approval of the master's program adviser.

   Specific requirements for students selecting the Industrial and Organizational specialization (SIMS Code: 778304) are: A minimum of 38 units, 35 of which must be completed in psychology, to include Psychology 670A-670B or 770A-770B, 600 (Research Orientation, 2 units), 621, 622, 630, 675, 721, 722, 792 (Internship in Industrial and Organizational Psychology, 6 units), and 799A (Thesis). Three units of graduate electives may be selected from psychology or from other departments with prior approval of the master's program adviser.

2. **Clinical Psychology (included within the Ph.D. program; not available separately)**

   (Major Code: 20031) (SIMS Code: 778309)

   A minimum of 38 units in psychology to include Psychology 770A-770B, 801, 820, 840, 849, 850, 855, 856, UCSD Clinical Psychology 205 [Neuropsychology] or UCSD Clinical Psychology 227A [Mind, Brain, and Behavior I], 896, and UCSD Clinical Psychology 202E [Psychopathology] (or UCSD Clinical Psychology 227B [Mind, Brain, and Behavior II]). Completion of the second-year project and approval by a committee consisting of a minimum of three faculty members representing both SDSU and UCSD. For this degree only, all approvals and advancement to candidacy will be completed by the program director of the joint doctoral program.

Section II.
Doctoral Program

http://clinpsyc.sdsu.edu

Admission to the Degree Curriculum

To be considered for admission to the SDSU/UCSD joint doctoral program in clinical psychology, students must meet the general requirements for admission to both universities with classified graduate standing as outlined in the respective current catalogs. These include (a) an acceptable baccalaureate degree from an institution accredited by a regional accrediting association or equivalent academic preparation, as determined by the graduate deans of the two institutions; (b) a minimum overall grade point average of 3.0; (c) a grade point average of at least 3.25 in the last 60 semester (90 quarter) units attempted; (d) good standing at the last institution attended; (e) a minimum score above the 55th percentile for both the GRE verbal and quantitative (regardless of whether the test was taken before or after August 1, 2011); and (f) a competitive score on the Psychology Subject GRE, which is required to apply to the program. However, given the large number of applicants in the field of clinical psychology, the selection process is designed to identify the best from among many highly qualified applicants. Thus no minimum set of qualifications in any way guarantees admission. Personal interviews will be conducted with the most promising applicants. Admission of any candidate who deviates from the minimum standards can only be granted with special permission of both graduate deans. No faculty member has authority to make an offer of a position in the program to any applicant, implied or otherwise, without final recommendation of the program directors and approval of the graduate deans.

Although an undergraduate psychology major is not mandatory for admission, applicants should have completed a minimum of 18 semester units (27 quarter units) in psychology including courses in abnormal, social, cognitive, developmental, personality and psychopathology, and research methods. Advanced courses in perception and learning are desirable as are courses in biology, genetics, linguistics, mathematics, and other related areas (e.g., medical physics, computer sciences). The joint doctoral program is a year-round program.

An option for Ph.D. students in clinical psychology is to concurrently pursue the Master of Public Health (MPH) degree in the Graduate School of Public Health. Students jointly enrolled will first be accepted into the psychology program and then be recommended by the psychology program for admission to the MPH program. Students may be recommended at any time prior to receiving their doctoral degree. Following acceptance into the MPH degree, students must complete all required core classes as well as requirements for the concentration in health promotion. A specially designed program of study that incorporates requirements from both degree programs has been developed. Subsequent to coursework, MPH candidates are required to complete a comprehensive examination in their area of study. (For more information, see the section of this bulletin under “Public Health”)

Students will be admitted to graduate programs in psychology only in the fall semester. All application material for the Ph.D. program must be received by the doctoral program office and the SDSU Office of Admissions (earlier than December 15, as stated on the program’s website). Because the research and clinical requirements of the program may involve work with vulnerable populations, all incoming students will complete a background check prior to initial matriculation.

Detailed instructions for applying to the program, along with all necessary forms, are located on the SDSU/UCSD Joint Doctoral Program in Clinical Psychology Web page, which can be found at http://clinpsyc.sdsu.edu. Please review and follow these instructions carefully. Specific questions not answered by these materials should be e-mailed to PsycJDP@mail.sdsu.edu.

Specific Degree Requirements for the Doctor of Philosophy Degree in Clinical Psychology

(Major Code: 20031) (SIMS Code: 778310)

The student is guided by requirements for the doctoral degree program given in Part Four of this bulletin. The core curriculum will normally be completed during the first two years. Completion of this core requires that students have a general background in empirical psychology (e.g., physiological, social, cognitive-affective, and individual bases of behavior); knowledge of conceptualizations of personality and psychopathology; an awareness and appreciation of professional ethics, conflicts, and multicultural issues in an increasingly diverse society; knowledge of the theory and techniques of psychological assessment; therapeutic interventions, acquisition of therapeutic skills; a minimum of 1,000 hours of supervised clinical experience; and competence in research methods. Specific courses providing this background at SDSU include Psychology 770A-770B, 801, 820, 840, 849, 850, 855, 856, UCSD Clinical Psychology 205 [Neuropsychology] or UCSD Clinical Psychology 227A [Mind, Brain, and Behavior I], 875 (or 7755), 896, 897, and UCSD Clinical Psychology 202E [Psychopathology] or UCSD Clinical Psychology 227B [Mind, Brain, and Behavior II]. Students also must take a course in cognitive/affective bases of behavior. This is typically taken at UCSD.

During the second year, students select a research topic for a second year project, which is similar to a master's thesis. Students are responsible for conducting all phases of this project under the supervision of their joint guidance committee. Students may also elect to obtain a master's degree in clinical psychology by completing requirements for the Master of Science degree.

After completing the basic two-year core, work in subsequent years will diverge for students in each of the three major areas of study: behavioral medicine, experimental psychopathology, and neuropsychology.

Students with a program of study in behavioral medicine are required to take Psychology 842 (Behavioral Medicine Seminar: Assessment) and Psychology 843 (Behavioral Medicine Seminar: Intervention), typically in the third year. Students taking experimental psychopathology are required to take Psychology 833 (Seminar in Developmental Psychopathology) and Psychology 852 (Seminar in...
Experimental Psychopathology Research), typically in the third year. Students in neuropsychology are required to take UCSD Clinical Psychology 294 (Seminar in Neuropsychology).

In the fourth year, students are expected to submit and defend a dissertation proposal. Many students will also collect the data for and begin writing the dissertation during this year.

The fifth year is reserved for the completion of a doctoral dissertation and a full-time clinical internship that is identified by the student and the joint guidance committee. While on internship, students must remain registered in Psychology 894, (Clinical Internship) and Psychology 899 (Doctoral Dissertation).

Students are expected to maintain the highest standards of academic performance with a minimum 3.0 grade point average. According to doctoral program policy, failing below a 3.0 GPA automatically places the student on academic probation. The student may not remain on academic probation for more than one year. In addition, three grades below a B (i.e., a B- or lower or No Credit) are grounds for dismissal from the program without further qualification regardless of the student’s overall GPA.

In clinical psychology, adherence to the Ethical Principles of Psychologists (APA, Revised, 2003) is mandatory. Students who knowingly or unknowingly violate any part of the ethical code may be dismissed from the program without further qualification regardless of the student’s academic and professional qualifications for placement and continuation in the internship and (2) the student understands that the ethical code is made available to students at their initial orientation.

Prior to advancement to candidacy, students will be required to sign a statement of understanding that (1) the doctoral faculty will communicate with the clinical internship agency all information relevant to the student’s academic and professional qualifications for placement and continuation in the internship and (2) the student understands that the clinical internship must be satisfactorily completed before graduation.

Faculty

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

San Diego State University:
Program Director: Malcarne
Program Members: Amir, Blashill, Cronan, Gallo, Gilbert, Holcomb, Kappenman, Malcarne, Marinovic, Matt, Mattson, Müller, Murphy, Price, Roesch, Sereno, Thomas, Vaughn, Weersing, Wells, Wiggins, Yeh

University of California, San Diego:
Program Director: Heath

Courses Acceptable for Master’s and Doctoral Degree Programs in Psychology (PSY)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

PSY 561. Advanced Neuropsychology (3)
Prerequisites: Psychology 360 or 361 or grade of B (3.0) or better in Psychology 260.

- Biological bases of neuropsychological function and dysfunction, relationships between brain structure and function, neuropsychological assessment tools.

PSY 587. Advanced Principles of Learning and Cognition (3)
Prerequisites: Psychology 211, 260, and 380. Limited to graduate students or psychology majors with senior standing.

- Empirical data, basic theories, and theoretical positions of major theorists in learning and cognitive psychology.

PSY 596. Selected Topics in Psychology (1-3)
Prerequisites: Psychology 101 and consent of instructor.

- Intensive study in specific areas of psychology. 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. Credit for 596 and 696 applicable to a master’s degree with approval of the graduate adviser.

GRADUATE COURSES

NOTE: Graduate courses in psychology are not open to post-baccalaureate unclassified students.

NOTE: Priority for enrollment in graduate courses in psychology is given to psychology students who have the courses as requirements in their respective programs.

PSY 600. Research Orientation (1) Cr/NC
Prerequisite: Admission to the master’s degree program.

- Research in psychology. All master’s degree students are required to enroll in this course. Maximum credit two units.

PSY 610. Advanced Research Methods in Psychology (3)
Prerequisite: Admission to the master’s degree program.

- Diverse research methods across different areas of psychology. Interdependence of theory and methodology in research to include design, measurement, and validity.

PSY 621. Seminar in Personnel Psychology (3)
Prerequisites: Psychology 320 and consent of master’s program adviser.

- Problems and procedures in selection, classification, and performance appraisal, focusing on testing in industry, the interview, and other selection and assessment devices. Criterion development and measurement methods.

PSY 622. Seminar in Organizational Psychology (3)
Prerequisites: Psychology 321 and consent of master’s program adviser.

- Applications of psychological principles and methods of investigation to problems of industrial relations and motivation of employees; criteria of job proficiency; psychosocial aspects of worker-management relationships and leadership.

PSY 630. Seminar in Program Evaluation (3)
Prerequisite: Graduate standing in psychology.

- Theory and practice of program evaluation. Surveys concepts, issues, and methods relevant to evaluating programs, services, and interventions in the public and private sectors.

PSY 632. Theories and Methods in Developmental Science (3)
Prerequisite: Psychology 331 or 332.

- Philosophical and biological origins of developmental psychology. Examination of processes that shape perception, language acquisition, socialization, and cognition.
Psychology

PSY 670A-670B. Advanced Statistics in Psychology (3-3)
Two lectures and two hours of activity.
Prerequisites: Psychology 370, 410, a passing score on the departmental statistics placement test, and consent of master's program adviser.

PSY 675. Seminar in Psychological Measurement (3)
Prerequisites: Psychology 370 and consent of master's program adviser.
General principles, theory and methods underlying measurement in studies of group and individual differences in controlled experiments.

PSY 696. Selected Topics in Psychology (3)
Prerequisite: Consent of instructor.
Intensive study in specific areas of psychology. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

PSY 721. Advanced Seminar in Personnel Psychology (3)
Prerequisites: Psychology 621 and consent of master's program adviser.
Selected areas within personnel psychology including selection, classification, performance appraisal, test development, criterion development, measurement and scaling techniques. Course may be repeated with new content with permission of instructor and master's program adviser. Maximum credit six units applicable to a master's degree.

PSY 722. Advanced Seminar in Organizational Psychology (3)
Prerequisites: Psychology 622 and consent of master's program adviser.
Selected areas within organizational psychology including leadership, motivation, organizational development, and organizational effectiveness. Course may be repeated with new content with permission of instructor and master's program adviser. Maximum credit six units applicable to a master's degree.

PSY 740. Seminar in Social Psychology (3)
Prerequisites: Undergraduate course in social psychology and graduate level status.
Classic and contemporary issues in social psychology including social influence, person perception, attitudes and attitude change, group dynamics, intergroup conflict, and cultural influence.

PSY 745. Seminar in Selected Topics in Social Psychology (3)
Prerequisite: Psychology 740.
Issues of contemporary importance in the field. See Class Schedule for specific content. Course may be repeated provided it is offered by a different instructor and the subject matter is substantially different. To enroll in the seminar for the second time, the student must submit a petition to be approved by the professor of the course and the master's program adviser. Maximum credit six units applicable to a master's degree.

PSY 751. Clinical Psychology: Theory and Practice (3)
Prerequisites: Graduate standing in psychology and Psychology 350.
Clinical assessment, theory and practice of behavior change, and professional ethics.

PSY 760. Seminar in Physiological Correlates of Behavior (3)
Prerequisites: Psychology 260 or six units of biology; and consent of master's program adviser.
Course may be repeated provided it is offered by a different instructor and the subject matter is substantially different. To enroll in the seminar for the second time, the student must submit a petition to be approved by the professor of the course and the master's program adviser. Maximum credit six units applicable to a master's degree.

PSY 767. Seminar in Cognitive and Behavioral Neuroscience (3)
Prerequisite: Consent of instructor for programs outside of psychology master of arts and doctoral program.
Issues of contemporary importance in neuroscience. See Class Schedule for specific content. Course may be repeated provided it is offered by a different instructor and the subject matter is substantially different. To enroll in the seminar for the second time, the student must submit a petition to be approved by the professor and the master's program adviser. Maximum credit six units applicable to a master's degree.

PSY 770A-770B. Experimental Design and Data Analysis in Behavioral Research (3-3)
Two lectures and two hours of activity.
Prerequisites: Psychology 370, 410, a passing score on the departmental statistics placement test, and consent of master's program adviser.
Principles and methods of behavioral research stressing interdependence of experimental design and statistical evaluation of results. General linear models, maximum likelihood, and ANOVA formulations. Advanced multiple regression and correlation techniques using computer-based statistical packages.

PSY 775. Multivariate Statistics in Psychology (3)
Two lectures and two hours of activity.
Prerequisites: Psychology 670A-670B or 770A-770B and consent of instructor.
Introduction to multivariate techniques. Latent structure models with attention to relationship between latent constructs and observable data. Includes causal models, factor analysis (both exploratory and confirmatory), canonical correlation, path analysis, discriminant function analysis, and loglinear analysis.

PSY 790. Practicum in the Teaching of Psychology (1) Cr/NC/RP
Prerequisite: Award of a graduate teaching associatehip in psychology.
Supervision in the teaching of psychology, covering lecture writing, style of lecture presentation, in-class demonstration and exercise, test and syllabi construction, and grading system. Not applicable to an advanced degree.

PSY 791. Internship in Program Evaluation (1-6) Cr/NC/RP
Up to 20 hours of supervised work per week in a program approved internship setting.
Prerequisites: Psychology 630 and consent of instructor.
Supervised training in program evaluation in a program approved internship setting. Maximum credit six units.

PSY 792. Internship in Industrial and Organizational Psychology (1-6) Cr/NC/RP
Up to 20 hours of supervised work per week in a program approved internship setting.
Prerequisites: Consent of instructor. Credit or concurrent registration in Psychology 621 and 622.
Supervised training in industrial and organizational psychology in a program approved internship setting. Maximum credit six units.

PSY 796. Selected Topics in Psychology (3)
Prerequisite: Advanced master's and doctoral standing in psychology.
Intensive study in specific areas of psychology. In-depth investigation of controversial issues in the field as well as introduction to current and emerging technologies. Cognition, cognitive neuroimaging, and social perception. Maximum credit six units of 696 and 796 applicable to a master's degree with approval of graduate adviser.

PSY 797. Research (1-3) Cr/NC/RP
Prerequisite: Consent of master's program adviser.
Research in one of the fields of psychology. Maximum combined credit of six units of 797 and 798 applicable to a master's degree.

PSY 798. Special Study (1-3) Cr/NC/RP
Prerequisite: Consent of master's program adviser.
Individual projects involving library or laboratory research in any area of psychological investigation or interest. Maximum credit of six units of 797 and 798 applicable to a master's degree.

PSY 799A. Thesis (3) Cr/NC/RP
Prerequisites: An officially appointed thesis committee and advancement to candidacy.
Preparation of a project or thesis for the master's degree. Credit is contingent upon acceptance of the completed thesis by the Department of Psychology.
DOCTORAL COURSES

PSY 801. Seminar in History and Ethics in Psychology (3)  
Prerequisite: Admission to doctoral program in clinical psychology.  
Historical background of modern psychology; in-depth examination of the American Psychological Association code of ethics and its application to the conduct of clinical psychologists.

PSY 820. Seminar in Cultural Psychology (3)  
Prerequisite: Admission to doctoral program in cultural psychology.  
Cultural origins of human behavior; cultural limits of psychological knowledge.

PSY 833. Seminar in Developmental Psychopathology (3)  
Prerequisite: Admission to doctoral program in clinical psychology.  
Theories of personality and individual differences, group processes, sex roles, social perception, and cross-cultural issues.

PSY 840. Seminar in Personality and Social Psychology (3)  
Prerequisite: Admission to doctoral program in clinical psychology.  
Research and theory in personality and social psychology.  
Theories of personality and individual differences, group processes, sex roles, social perception, and cross-cultural issues.

PSY 842. Behavioral Medicine Seminar: Assessment (3)  
Prerequisite: Admission to doctoral program or approval by instructor and program director.  
Assessment methods and issues in behavioral medicine.  
Development and implementation of assessment plans.  
Theoretical and practical aspects of psychological, behavioral, and physiological assessment methods for various health issues.

PSY 843. Behavioral Medicine Seminar: Intervention (3)  
Prerequisites: Admission to doctoral program and Psychology 842.  
Design and implement interventions by stressing empirically supported approaches to improve health and change health behaviors.  
Strengths and weaknesses of clinical community interventions.

PSY 849. Seminar and Laboratory in Counseling and Psychotherapy (4)  
Two lectures and six hours of laboratory.  
Prerequisite: Consent of graduate adviser.  
Supervised practice in application of psychotherapeutic and counseling techniques from selected cognitive, dynamic, interpersonal, and behavioral approaches.  
Open only to students accepted in the doctoral program.

PSY 850. Seminar in Theory and Practice in Clinical Interventions (3)  
Prerequisite: Admission to doctoral program in clinical psychology.  
Theory and application of clinical interventions, advanced study of interviewing techniques, behavioral interventions, cognitive/behavioral interventions, and family/child interventions.
Public Administration
In the School of Public Affairs
In the College of Professional Studies and Fine Arts

OFFICE: Professional Studies and Fine Arts 100
TELEPHONE: 619-594-6225 / FAX: 619-594-1165

Faculty
Stuart D. Henry, Ph.D., Professor of Public Affairs, Director of School
Roger W. Caves, Ph.D., Professor of Public Affairs, Emeritus
(M.C.P. Graduate Coordinator)
Shawn T. Flanigan, Ph.D., Professor of Public Affairs
(M.P.A. Graduate Coordinator)
Darrell L. Pugh, Ph.D., Professor of Public Affairs
Sherry Ryan, Ph.D., Professor of Public Affairs
Salvador Espinosa, Ph.D., Associate Professor of Public Affairs
Paul J. Kaplan, Ph.D., Associate Professor of Public Affairs
Jeffrey S. McIlwain, Ph.D., Associate Professor of Public Affairs
Alan C. Mobley, Ph.D., Associate Professor of Public Affairs
Dana M. Nurge, Ph.D., Associate Professor of Public Affairs
(M.C.J.C. Graduate Coordinator)
Mounir Abdel-Samad, Ph.D., Assistant Professor of Public Affairs
Bruce S. Appleyard, Ph.D., Assistant Professor of Public Affairs
Joshua M. Chanin, Ph.D., J.D., Assistant Professor of Public Affairs
Megan B. Welsh, Ph.D., Assistant Professor of Public Affairs

General Information
The School of Public Affairs offers graduate study leading to the
Master of Public Administration degree, either face-to-face, or online.
Research facilities include the Institute of Public and Urban Affairs
and the Public Administration Center.

The San Diego metropolitan community affords significant
internship opportunities for the graduate student in federal, state, and
local government agencies.

The School of Public Affairs’ M.P.A. degree is accredited by the
Network of Schools of Public Policy, Affairs, and Administration
(NASPAA) and listed on its annual roster of accredited programs
found to be in conformity with standards established for professional
master’s degrees in public affairs and administration.

Master of Public Administration Degree
This degree permits the selection, under advisement, of a program
of courses and seminar work which may be oriented toward a gener-
alist approach or with a research focus on border governance, fiscal
policy and administration, organizational behavior and development,
public policy, or urban administration. Also offered are concen-
trations in criminal justice administration and city planning, each
consisting of 15 units within the required program for the Master of
Public Administration. Since management responsibilities are shared
by administrators in a number of professional areas in public service,
students are encouraged to supplement the study of government
and administration with graduate courses in economics, sociology,
psychology, business administration, and other related areas.

Admission to Graduate Study
All students must satisfy the general requirements for admission
to the university with classified graduate standing, as described in
Part Two of this bulletin. The student must also satisfy the following
requirements: (1) a 3.0 grade point average in the undergraduate
major and a 2.85 overall average; and (2) an acceptable score on the
GRE General Test.

Students applying for admission should electronically submit
the university application available at http://www.calstate.edu/apply
along with the $55 application fee.

All applicants must submit admissions materials separately to
SDSU Graduate Admissions and to the School of Public Affairs.

Graduate Admissions
The following materials should be submitted as a complete
package directly to:

SDSU Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all
postsecondary institutions attended;
NOTE:
• Students who attended SDSU need only submit tran-
scripts for work completed since last attendance.
• Students with international coursework must submit
both the official transcript and proof of degree. If docu-
ments are in a language other than English, they must
be accompanied by a certified English translation.

(2) GRE scores (http://www.ets.org SDSU institution code 4682);
(3) English language score, if medium of instruction was in
a language other than English (http://www.ets.org SDSU
institution code 4682).

School of Public Affairs
The following admissions materials must be submitted electron-
ically via DecisionDesk, http://gra.sdsu.edu/decisiondesk/ before
April 1:

(1) Letters of recommendation (two letters from persons familiar
with the applicant’s academic ability and accomplishments);
(2) Statement of purpose.

Advancement to Candidacy
All students must meet the general requirements for advancement
to candidacy, as described in Part Four of this bulletin and be recom-
mended by the faculty. In order to be recommended for advancement,
a student must have achieved an overall grade point average of 3.0 with no
grade below B- (2.7) in Public Administration 600 and in three additional
courses selected from Public Administration 604, 605 or 606, 630, 642,
650, 660.

Specific Requirements for the Master of
Public Administration Degree
(Major Code: 21021) (SIMS Code: 666901)

In addition to meeting the requirements for classified graduate
standing, students must satisfy the basic requirements for the master’s
degree as described in Part Four of this bulletin. Students must also
complete as a part of their programs: (1) at least 27 units of 600- and
700-numbered courses including Public Administration 600, 604, 605
or 606, 630, 642, 650 and 660; and (2) a minimum of nine additional units
of 500-level or graduate courses in public administration or related fields
selected under advisement. An internship of 12 units (one semester)
beyond the 36 units of coursework is required of students who have not
had equivalent managerial-level experience. The internship normally
will be served in a governmental agency where the intern will perform
administrative duties. Placements typically will be made in the office
of a city manager, a budget office, a personnel office or in the office
of the head of a major operating department. Public Administration
799A, Thesis, must be included in the program unless Plan B with a
comprehensive written examination in lieu of the thesis is selected by
the student with the approval of a graduate adviser; and (3) Students
who specialize in Public Personnel and Labor Relations must take
Public Administration 530, 531, 632, and 643.
Concentration in Criminal Justice Administration  
(Major Code: 21051) (SIMS Code: 666926)  
Students must complete 15 units from the following courses as part of the M.P.A. degree:  
CJ 602 Seminar in Comparative Criminal Justice System (3)  
CJ 603 Seminar in Community and Restorative Justice (3)  
CJ 604 Seminar in Criminal Justice and Urban Administration (3)  
CJ 605 Seminar in Juvenile Justice and Youth Violence (3)  
Criminal Justice elective at the 500- to 700-level (3)  

Concentration in City Planning  
(Major Code: 02061) (SIMS Code: 666918)  
Students must complete the following courses as part of the M.P.A. degree:  
P A 625 The U.S. City Planning Process (3)  
P C 630 Seminar in Urban Planning Implementation (3)  
P C 640 Seminar in Urban Planning Theory (3)  
P C 670 History of Urban Planning (3)  
P C 690 Seminar in Land Use Planning Principles and Techniques (3)  

Master of Public Administration Degree and Master of Arts Degree in Latin American Studies  

General Information  
The School of Public Affairs and the Center for Latin American Studies offer a concurrent graduate program leading to a Master of Public Administration and a Master of Arts in Latin American Studies. This concurrent degree program offers students preparation in the fields of public administration and Latin American studies for the purpose of public administration in fields requiring bi-national understanding of administration in the public sector.  
If a student in the concurrent graduate program returns to a single degree program, none of the provisions of the concurrent degree program shall pertain. Transfer units will not be accepted toward the concurrent degrees, nor will previous graduate study or prior degrees be accepted toward meeting the unit requirements.  

Admission to the Degree Curriculum  
All students must satisfy the general requirements for admission to the university with classified graduate standing as described in Part Four of this bulletin. The successful applicant will also satisfy the requirements for both the Master of Public Administration and the Master of Arts in Latin American Studies. To be admitted to the program, students must have (1) a 3.0 grade point average in the undergraduate major and 2.85 overall and (2) an acceptable score on the Graduate Record Examination (GRE) General Test. Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee as described in Part Four of this bulletin.  
The following materials should be mailed or delivered to:  
Center for Latin American Studies  
(Attention: Graduate Adviser)  
San Diego State University  
5500 Campanile Drive  
San Diego, CA 92182-6038  
(1) Personal statement;  
(2) Three letters of reference from individuals who have known the student’s academic performance (one letter may be from an individual who knows the employment performance of the student).  

Advancement to Candidacy  
All students must meet the general requirements for advancement to candidacy as described in Part Four of this bulletin and be recommended by the graduate advisers of both programs. In addition, all students must (1) complete Public Administration 600 and three additional courses selected from Public Administration 604, 605 or 606, 630, 642, 650, 660; (2) complete Latin American Studies 600 and 601; (3) achieve an overall grade point average of 3.0 in these courses with no grade below B-; (4) complete with a grade of B (3.0) or better, Spanish 302 or Portuguese 401, or their equivalents, or three units of 500-level or graduate coursework in Spanish, or pass the American Council of the Teaching of Foreign Languages (ACTFL) oral proficiency examination in either Spanish or Portuguese with a score of 2.0 or above; (5) demonstrate international experience in Latin America through an approved study abroad or an international internship experience, or successful completion of Latin American Studies 550, an approved study abroad experience course.  

Specific Requirements for the MPA/MA Degree  
(Major Code: 21020) (SIMS Code: 666905)  
In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Four of this bulletin, the student must complete an officially approved course of study consisting of 54-66 units as outlined below:  

1. Complete the following core of eight courses (24 units):  
P A 600 Scope of Public Administration (3)  
P A 604 Methods of Analysis in Public and Urban Affairs (3)  
P A 630 Seminar in Public Personnel Administration (3)  
P A 642 Seminar in Administrative Theory (3)  
P A 650 Seminar in Public Financial Management (3)  
P A 660 Administration and Public Policy Development (3)  
LATAM 600 Seminar in Latin American Studies (3)  
LATAM 601 Seminar on Methodology of Latin American Studies (3)  

2. Complete one of the following courses (3 units):  
P A 605 Seminar in Research Methods in Public Administration (3)  
P A 606 Seminar in Quantitative Approaches to Public Administration (3)  

3. Complete three courses in one theme listed below (9 units):  

   **City Planning Theme**  
P A 625 The U.S. City Planning Process (3)  
P C 630 Seminar in Urban Planning Implementation (3)  
P C 640 Seminar in Urban Planning Theory (3)  
P C 670 History of Urban Planning (3)  
P C 690 Seminar in Land Use Planning Principles and Techniques (3)  

   **Criminal Justice Administration Theme**  
CJ 601 Seminar in the Administration of Criminal Justice (3)  
CJ 602 Seminar in Comparative Criminal Justice System (3)  
CJ 603 Seminar in Community and Restorative Justice (3)  
CJ 604 Seminar in Criminal Justice and Urban Administration (3)  
CJ 605 Seminar in Juvenile Justice and Youth Violence (3)  

   **Public Personnel and Labor Relations Theme**  
P A 530 Negotiation and Bargaining in the Public Service (3)  
P A 531 Governmental Employer-Employee Relations (3)  
P A 632 Seminar of Organization Development in the Public Sector (3)  
P A 643 Seminar in Administrative Behavior (3)  

   **General Public Administration Theme**  
P A 620 Seminar in Management of Urban Governments (3)  
P A 632 Seminar of Organization Development in the Public Sector (3)  
P A 640 Seminar in Public Administration (3)
4. Complete five courses from at least two departments (15 units):

**Latin American Studies**
- LATAM 540 History, Society, and Ecology of Baja Peninsula (3)
- LATAM 550 Mexican-US Border from a Latin American Perspective (3)
- LATAM 580 Special Topics* (3)
- LATAM 750 Seminar: Study in Latin America (3)
- LATAM 797 Research (3) Cr/NCR
- LATAM 798 Special Study (3) Cr/NCR

**Anthropology**
- ANTH 520 Ethnographic Field Methods (3)
- ANTH 529 Urban Anthropology (3)
- ANTH 531 Methods in Applied Anthropology (3)
- ANTH 533 Race, Ethnicity, and Identity* (3)
- ANTH 582 Political Anthropology* (3)
- ANTH 583 Topical Anthropology* (3)
- ANTH 605 Seminar in Applied Anthropology (3)

**Economics**
- ECON 565 North American Economic Relations (3)
- ECON 600-level or above; may include related elective:
  - ECON 561 International Trade (3)
  - ECON 592 International Monetary Theory and Policy (3)

**Geography**
- GEOG 506 Landscape Ecology* (3)
- GEOG 573 Population and the Environment* (3)
- GEOG 574 Water Resources* (3)

**History**
- HIST 550 Colonial Mexico (3)
- HIST 551 Modern Mexico (3)
- HIST 558 Latin America in World Affairs (3)
- HIST 580 Topics in the History of War and Violence* (3)
- HIST 640 Directed Readings in Latin American History (3)

**Political Science**
- POL S 562 Religion and Politics in Comparative Perspective (3)
- POL S 564 Political Ecology of Latin America (3)
- POL S 565 Nations and Nationalism (3)
- POL S 566 Political Change in Latin America (3)
- POL S 567 Political Systems of Latin America (3)
- POL S 568 Mexican Politics (3)
- POL S 661 Seminar in the Political Systems of the Developing Nations* (3)
- POL S 667 Seminar in Latin American Political Systems (3)

**Portuguese**
- PORT 535 Brazilian Literature (3)

**Sociology**
- SOC 522 The Family in Comparative and Cross-Cultural Perspectives (3)
- SOC 554 Sociology of the United States-Mexico Transborder Populations and Globalization (3)

**Spanish**
- SPAN 602 Foundations and Research Methods of Hispanic Linguistics (3)
- SPAN 606 Spanish American Literature: Independence to Present (3)
- SPAN 751 Seminar in Realism* (3)
- SPAN 752 Seminar in Literature and Culture of the Fin-de-Siècle (3)
- SPAN 760 Seminar in Reading in the Transatlantic Imaginary (3)

5. Students must complete P A 799A or LATAM 799A or P A 797 or LATAM 797 (3 units). The thesis (P A 799A or LATAM 799A) must treat a Latin American related topic in public administration and will be supervised by at least one public administration faculty and at least one member of the Latin American Studies faculty. A culminating research experience (P A 797 or LATAM 797) must incorporate field research or an internship, and must result in a project that is approved by the graduate advisers in both programs.

6. An internship of 12 units (one semester) beyond the coursework is required of students who have not had equivalent experience. Students should consult with the public administration graduate adviser before enrolling.

7. Students must pass the American Council of Teachers of Foreign Language (ACTFL) oral proficiency examination in either Spanish for Portuguese with a score of 2.0 or above.

**Courses Acceptable for Master's Degree Programs in Public Administration (P A)**

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

**UPPER DIVISION COURSES**

**P A 501. Nonprofit Organizations and Government (3)**
Prerequisites: Public Administration 301 and 460. How nonprofit organizations interact with government institutions, influence and pressure government through policy advocacy and activism, and partner with government in contracting, public service provision, and policymaking.

**P A 520. Decision Making in the Urban Community (3)**
Prerequisite: Public Administration 310. Processes of decision making in the management of urban communities.

**P A 525. The U.S. City Planning Process (3)**
Prerequisite: Public Administration 320 or graduate standing. Description and critique of traditional city planning process; styles and roles of city planner; city planning values and ethics.

**P A 530. Negotiation and Bargaining in the Public Service (3)**
Prerequisite: Public Administration 301. Specific issues such as strategies, the effects of threat, the physical setting, use of a third-party observer and theories of advocacy. Emphasis on analyzing simulations of the bargaining process and developing effective negotiation skills.

**P A 531. Governmental Employer-Employee Relations (3)**
Prerequisite: Public Administration 330. Historical development, legal basis, and organizational implications of governmental employer-employee relations; emphasis on California local government.

**P A 540. Public Administrative Systems Analysis (3)**
Prerequisites: Public Administration 301 and a statistics course. Systems and organization analysis; work standards and units; procedures analysis; administrative planning.

**P A 571. Managing Water and Energy Resources (3)**
(Offered only at IVC)
Prerequisite: Public Administration 301. Management and economics of water and energy resources, delivery systems, regulatory framework, and renewable resources. Contemporary water and energy management issues.

**P A 580. Comparative Public Administration (3)**
Prerequisite: Public Administration 301. Administrative organization and process of selected foreign and American governments. Analysis of the cultural basis of administrative systems.

**P A 596. Experimental Topics (1-4)**
Selected current topics in public administration. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 296, 496, 596 courses applicable to a bachelor's degree. Maximum credit six units of 596 applicable to a bachelor's degree. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.
GRADUATE COURSES

PA 600. Scope of Public Administration (3)
The development of public administration as an academic discipline; a systematic evaluation of the rise and operations of large-scale public bureaucracies.

PA 604. Methods of Analysis in Public and Urban Affairs (3)
Prerequisite: Credit or concurrent registration in Public Administration 600.
Research design for problems and cases in public affairs; summarizing and organizing data; methods of projection; sampling theory and application; using census and other secondary data sources.

PA 605. Seminar in Research Methods in Public Administration (3)
Prerequisite: Public Administration 604.
Examination of basic research approaches, i.e., legal, historical, and small-group, etc.

PA 606. Seminar in Quantitative Approaches to Public Administration (3)
Prerequisite: Public Administration 604.
Advanced techniques for analyzing problems in public and urban affairs; emphasis on computer applications.

PA 620. Seminar in Management of Urban Governments (3)
Selected problems in the management of urban governments. Maximum credit six units applicable to a master's degree.

PA 630. Seminar in Public Personnel Administration (3)
Prerequisite: Public Administration 600.
Analysis of selected problems in personnel administration; special emphasis on organizational development and consultation skills as emerging personnel functions. Maximum credit six units applicable to a master's degree.

PA 632. Seminar of Organization Development in the Public Sector (3)
Prerequisite: Public Administration 600.
Organization development theory and practice. Emphasis on organizational diagnosis, intervention theory, team building and process consultation skills as they apply to public sector organizations.

PA 640. Seminar in Public Administration (3)
Selected topics. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

PA 642. Seminar in Administrative Theory (3)
Prerequisite: Public Administration 600.
Organization and management; the executive role, decision making; bureaucracy; authority and power; communication and control and organizational system; tactics and strategies in effective management.

PA 643. Seminar in Administrative Behavior (3)
Prerequisite: Public Administration 340.
Intrapersonal, interpersonal and group development knowledge which enhances the administrator's effectiveness. Simulations and structured experiential designs examine behaviors encountered in public bureaucracies.

PA 650. Seminar in Public Financial Management (3)
Prerequisite: Public Administration 450.

PA 660. Administration and Public Policy Development (3)
Prerequisite: Public Administration 600.
Social, political and administrative problems involved in governmental program development and change.

PA 791. Readings in Public Administration (3) Cr/NC
Prerequisites: Public Administration 600 and advancement to candidacy.
Selected readings in the literature of public administration.

PA 792. Problem Analysis (3)

PA 796. Internship in Public Administration (3-12) Cr/NC
Prerequisite: Consent of instructor.
The 12 units of 796 will be exempt from the university's requirement that courses graded Cr/NC be limited to 30 percent of units for the master's degree.

PA 797. Research in Public Administration (3) Cr/NC/RP
Prerequisite: Consent of director of public affairs.
Research in one of the areas of public administration. Maximum credit six units applicable to a master's degree.

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

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

PA 799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP 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.

PA 799C. Comprehensive Examination Extension (0) Cr/NC
Prerequisite: Completion or concurrent enrollment in degree program courses.
Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.
Public Health
In the College of Health and Human Services

OFFICE: Hardy Tower 119
TELEPHONE: (619) 594-6317 / FAX: (619) 594-6112
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Faculty

Office of the Director
Hala Madanat, Ph.D., Professor of Public Health, Director of School
Suzanne P. Lindsay, Ph.D., M.P.H., Associate Professor of Public Health, Emeritus, Associate Director of Public Health Practice

Epidemiology and Biostatistics
Stephanie Kay Brodine, M.D., Professor of Public Health, Division Head
Richard A. Shaffer, Ph.D., M.P.H., Professor of Public Health
Elena S. H. Yu, Ph.D., M.P.H., Professor of Public Health
John E. Alcaraz, Ph.D., Associate Professor of Public Health
Susan M. Kiene, Ph.D., M.P.H., Associate Professor of Public Health
Suzanne P. Lindsay, Ph.D., M.P.H., Associate Professor of Public Health

Health Management and Policy
Jong-Deuk Baek, Ph.D., Associate Professor of Public Health,
Carleen H. Stoskopf, Sc.D., M.S., Professor of Public Health
Tracy L. Finlayson, Ph.D., Associate Professor of Public Health
Robert L. Seidman, Ph.D., Associate Professor of Public Health, Emeritus
Melody Schiaffino, Ph.D., M.P.H., Assistant Professor of Public Health
Nicola Macchione, M.S., M.P.H., John J. Hanlon Executive Scholar

Health Promotion and Behavioral Science
John P. Elder, Ph.D., M.P.H., Albert W. Johnson Distinguished Professor of Public Health, Division Head
Guadalupe X. Ayala, Ph.D., Professor of Public Health and Associate Dean of the College of Health and Human Services
Elva M. Arnedondo, Ph.D., Professor of Public Health
Heather L. Corliss, Ph.D., M.P.H., Professor of Public Health
Melbourne F. Hovell, Ph.D., M.P.H., Albert W. Johnson Distinguished Professor of Public Health, Emeritus
Hala Madanat, Ph.D., Professor of Public Health
Gregory A. Talavera, M.D., M.P.H., Professor of Public Health
Eric R. Buhi, Ph.D., Associate Professor of Public Health
Jerel P. Calzo, Ph.D., Associate Professor of Public Health
Elizabeth Reed, Ph.D., Associate Professor of Public Health
Noe C. Crespo, Ph.D., Assistant Professor of Public Health
Nada Kassem, Dr.P.H., M.S., R.N., Research Associate Professor
Sheila F. Castaneda, Ph.D., Research Assistant Professor

Environmental Health
Richard M. Gersberg, Ph.D., Professor of Public Health,
Division Head
Penelope J.E. (Jenny) Quintana, Ph.D., M.P.H., Professor of Public Health (Graduate Adviser)
M. Zohr Chowdhury, Ph.D., Associate Professor of Public Health
Eunha Huh, Ph.D., Associate Professor of Public Health

Preventive Medicine Residency
Linda L. Hill, M.D., M.P.H., Adjunct Associate Professor of Public Health,
Kevin M. Patrick, M.D., M.S., Adjunct Professor of Public Health,
Wilma Wooten, M.D., M.P.H., Adjunct Associate Professor of Public Health

The John J. Hanlon Chair in Health Services Research and Policy
Alvarado Hospital Medical Center has joined with SDSU's faculty and staff to create The John J. Hanlon Chair in Health Services Research and Policy in the Graduate School of Public Health (GSPH). The chair is named in honor of the late Dr. John J. Hanlon, former associate surgeon general for the U.S. Public Health Service. Dr. Hanlon coordinated the planning and development of SDSU's Graduate School of Public Health.

General Information
The Graduate School of Public Health offers advanced study leading to the degrees of Doctor of Philosophy, Master of Public Health, Master of Science, and a program that allows students to earn the Master of Public Health concurrently with the Master of Social Work, the Master of Arts in Latin American Studies, or the Doctor of Medicine. The Ph.D. is offered in three concentration areas, to include epidemiology, global health, health behavior with various specialization opportunities (see doctoral program); the M.P.H. is offered with concentrations in the areas of biometry, environmental health, epidemiology, health promotion and behavioral science, and health management and policy; the M.S. degree is offered with a concentration in the area of environmental health sciences. In addition to these advanced degree programs, the school offers a preventive medicine residency program that prepares qualified physicians to sit for the American Board of Preventive Medicine certification examination. Residents may receive the M.P.H. degree along with completion of this residency program. Finally, the public health faculty directs academic study leading to a Bachelor of Science degree in health science for those undergraduate students interested in public health. For more information concerning this undergraduate program, see the General Catalog.

The Graduate School of Public Health is nationally accredited by the Council on Education for Public Health (CEPH). The graduate program in health management and policy is accredited by the Commission on Accreditation for Health Management Education (CAHME), and the preventive medicine residency program is accredited by the Accrediting Commission for Graduate Medical Education (ACGME). The curriculum in the Graduate School of Public Health has been designed to prepare students as practitioners of public health as well as for careers in teaching and research and as leaders in both public and private sector agencies and organizations. To accomplish this mission effectively, the faculty of the Graduate School of Public Health is augmented by expert practitioners in specialized fields related to public health who contribute to both the academic and practical experiences of students pursuing public health degrees. These professionals, who hold research or adjunct professorships in the school, come from a variety of settings such as the County Health and Human Services Agency, military services, hospitals, HMOs, managed care agencies, industry, and other academic institutions.

The Graduate School of Public Health has established close cooperation between the GSPH at San Diego State University and the Department of Family and Preventive Medicine in the School of Medicine at the University of California, San Diego. The UCSD medical school faculty has joined the public health faculty at SDSU in offering the Ph.D. in public health as well as the preventive medicine residency program. Under a special affiliation agreement between the two institutions, medical students at UCSD may take public health courses at SDSU while pursuing their medical studies and, if they choose, earn the M.D. and M.P.H. degrees concurrently. Likewise, SDSU students pursuing advanced study in the GSPH may enroll for specialized courses in the medical school.

This broad network of individual practitioners and the institutions they serve provide a variety of health facilities in which students at the GSPH may meet field studies and practicum requirements. Many of these opportunities are available not only in the San Diego region,
but also in Mexico. The school's proximity to the Mexican border has led to the development of strong professional ties between the faculty and students of the GSPH and their counterparts in Baja California. Special arrangements with Universidad Autónoma de Baja California enable students to take courses for credit at the Tijuana campus. This connection has produced a continuing series of jointly sponsored binaleral research and service projects designed to improve public health conditions and health services on both sides of the border.

Research

Faculty and student research in the broad interdisciplinary field of public health is conducted within the various specialized areas that are generally defined by the degree concentrations. The following descriptions illustrate the focus of research within each of these areas.

Biometry and Biostatistics: Development and application of statistical methods and models in the fields of public health, medicine, and biology. A concentration in biometry, and the scope of the academic and research opportunities in the university may be seen in the listing for the program in biostatistics and biometry presented earlier in this bulletin.

Environmental Health: Identification, evaluation and control of chemical, biological and physical agents in the environment. Current emphasis is on U.S.–Mexico border issues and on applying emerging technologies to environmental programs.

Epidemiology: Identification of biological, environmental, social, and behavioral risk factors of human disease; determination of the distribution and etiology of disease in human populations, particularly infectious and chronic diseases.

Health Promotion and Behavioral Science: Behavioral science applied to health-related behavior for the identification of risk factors for physical and mental health “illnesses,” and the experimental evaluation of interventions aimed at changing risk practices or promoting health enhancing behavior; emphasis is placed on vulnerable populations, such as low income, minority, women, and children.

Health Management and Policy: Management of health care facilities, services, and organizations; planning and evaluation of public and private sector programs; administration and operations in specialty services, hospitals, ambulatory care, insurance companies, HMOs, and other health-related organizations.

Affiliated Research Centers

In an effort to serve better the community at large, the Graduate School of Public Health sponsors the Institute for Public Health. The institute serves as the school’s bridge with the community, facilitating field practice opportunities, community-based research and program evaluations, and a venue for continuing education. In addition, a number of research centers have been established to integrate the specialized research of its faculty and students. These are the Center for Behavioral Epidemiology and Community Health (CBEACH), and the Institute for Behavioral and Community Health (IBACH). For more information on these centers, see Part Three of this bulletin.

Admission to Master's and Doctoral Study

Master of Public Health Degree

Master of Science Degree in Public Health

Master of Public Health Degree and Master of Arts Degree in Latin American Studies

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee as described in Part Two of this bulletin. All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the Graduate School of Public Health.

Graduate Admissions

The following materials should be submitted as a complete package directly to:

Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all post-secondary institutions attended;

NOTE:
• Students who attended SDSU need only submit transcripts for work completed since last attendance.
• Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

(2) GRE scores (http://www.ets.org SDSU institution code 4682);

(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

Graduate School of Public Health

Applicants seeking admission to the Master of Public Health, Master of Science, or Master of Public Health and Master of Arts degree in Latin American Studies should contact the Graduate School of Public Health requesting appropriate descriptive materials. Detailed application instructions can be obtained from our website at http://publichealth.sdsu.edu

Students who do not fully meet the requirements for admission with classified graduate standing may be considered for conditionally classified graduate standing upon recommendation of the admissions committee and the graduate adviser.

Master of Social Work Degree and Master of Public Health Degree

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee as described in Part Two of this bulletin.

All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the School of Social Work.

Graduate Admissions

The following materials should be submitted as a complete package directly to:

Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all post-secondary institutions attended;

NOTE:
• Students who attended SDSU need only submit transcripts for work completed since last attendance.
• Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

(2) GRE scores (http://www.ets.org SDSU institution code 4682);

(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

School of Social Work

The following materials should be mailed or delivered to:

School of Social Work
(Attention: Graduate Adviser)
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-4119

(1) A narrative statement as described in Instructions for Applicants;

(2) Three letters of recommendation.

Ph.D. Degree in Public Health

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee as described in Part Two of this bulletin.

All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the Graduate School of Public Health.
Graduate Admissions
The following materials should be submitted as a complete package directly to:
Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all post-secondary institutions attended;
NOTE:
• Students who attended SDSU need only submit transcripts for work completed since last attendance.
• Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.
(2) GRE scores (http://www.ets.org SDSU institution code 4682);
(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682);

Graduate School of Public Health
Prospective applicants for the doctoral program in public health should go to http://publichealth.ucsd.edu/jdp/?page_id=45 for information on application procedures and deadlines.

Section I.
Master's Degree Programs

Master of Public Health Degree
Admission to the Degree Curriculum
Applicants seeking admission to public health concentration areas leading to either the Master of Public Health or Master of Science degree should contact the Graduate School of Public Health requesting appropriate descriptive materials. Detailed application instructions can be obtained from http://publichealth.sdsu.edu.
Applicants for the biometry concentration are required to have successfully completed undergraduate courses in single and multivariate calculus.

Students who do not fully meet the requirements for admission with classified graduate standing may be considered for conditionally classified graduate standing upon recommendation of the admissions committee and the graduate adviser.

Advancement to Candidacy
All students must: (1) meet the general requirements for advancement to candidacy as described in Part Four of this bulletin; (2) satisfactorily pass a faculty evaluation of the progress that they are making in their graduate course of study; (3) complete the core courses, Public Health 601, 602, 603, 604, 605 (students in health management and policy will substitute Public Health 641 for Public Health 602 for Public Health 605); have a grade point average of at least 3.0 and no grade less than a B– in each core course completed; and (4) have completed at least 12 semester units of approved public health coursework.

In addition, the student must be recommended for advancement to candidacy by the faculty of the Graduate School of Public Health.

Specific Requirements for the Master of Public Health Degree
(Major Code: 12141) (SIMS Code: 557301)
In addition to meeting the requirements for classified graduate standing and the basic requirements for the master’s degree as described in Part Four of this bulletin, the student must complete an officially approved course of study of not less than 51 units (56 units for students in Health Management and Policy) including: (1) Public Health 601, 602, 603, 604, and 605 (students in health management and policy will substitute Public Health 641 for Public Health 602 for Public Health 605); (2) a minimum of 21 units of graduate courses in the area of concentration; (3) a minimum of three and a maximum of 12 units of supervised field placement; and (4) electives selected with the approval of the graduate adviser.
In addition, Public Health 797, Research, Public Health 798, Special Study, or Public Health 799A, Thesis, must be included in the program as a capstone experience.

Concentrations in biometry, epidemiology, and health promotion and behavioral science require three units of field placement for the Master of Public Health degree. The concentration in health management and policy and the concentration in environmental health both require six units of field placement.
Up to nine units of graduate credit may be accepted in transfer, with the approval of the graduate adviser.
In special circumstances, the graduate adviser may approve one course not on the list of prescribed electives. The substitution must be approved prior to enrollment in the course.

Concentration in Biometry
(SIMS Code: 557308)
Courses required for the concentration:
PH 601 Epidemiology (3)
PH 602 Biostatistics (3)
PH 603 Behavioral and Social Science in Public Health (3)
PH 604 Environmental Determinants of Human Health (3)
PH 605 Health Services Administration (3)
PH 623 Epidemiological Methods (3)
PH 627 Advanced Statistical Methods in Public Health (3)
PH 628 Applications of Multivariate Statistics in Public Health (3)
PH 650R Field Practice: Required Community Practice (3) Cr/NC
STAT 551A Probability and Mathematical Statistics (3)
STAT 551B Probability and Mathematical Statistics (3)
Prescribed electives: Six units selected from the following public health courses:
PH 649 Border and Global Public Health Surveillance (3)
PH 700A Seminar in Public Health: Epidemiology (3)
PH 724 Advanced Methods in Epidemiology (3)
PH 823 Case-Control Studies (3)
PH 824 Cohort Studies (3)
PH 826 Analysis of Case-Control Studies (3)
PH 827 Analysis of Cohort Studies (3)
Prescribed electives: Six units selected from the following statistics courses:
STAT 550 Sample Surveys (3)
STAT 670A-670B Advanced Mathematical Statistics (3-3)
STAT 672 Nonparametric Statistics (3)
STAT 676 Bayesian Statistics (3)
STAT 677 Design of Experiments (3)
STAT 678 Survival Analysis (3)
STAT 680A-680B Advanced Biostatistical Methods (3-3)
Electives: Three units selected with approval of concentration faculty from any public health or statistics course.

Concentration in Environmental Health
(SIMS Code: 557315)
(Registered Environmental Health Specialist Option V Accredited)
Courses required for the concentration:
PH 601 Epidemiology (3)
PH 602 Biostatistics (3)
PH 603 Behavioral and Social Science in Public Health (3)
PH 604 Environmental Determinants of Human Health (3)
PH 605 Health Services Administration (3)
PH 632 Air Quality (3)
PH 633 Environmental Protection (3)
PH 636 Hazardous Waste Management (3)
PH 638A Principles of Toxicology (3)
PH 639 Water Quality Investigation (3)
PH 650R Field Practice: Required Community Practice (3) Cr/NC
PH 750D Advanced Field Practice: Environmental Health (3) Cr/NC
PH 797 Research (3) Cr/NC/RP
Prescribed electives: A minimum of nine additional units selected with the approval of the adviser from:

- P H 630 Environmental Health Risk Assessment (3)
- P H 700D Seminar in Public Health: Environmental Health (3-6)
- P H 784 Global Environmental Health (3)
- P H 798 Special Study (1-6) Cr/NC/RP

**Concentration in Epidemiology**  
(SIMS Code: 557329)

Courses required for the concentration:

- P H 601 Epidemiology (3)
- P H 602 Biostatistics (3)
- P H 603 Behavioral and Social Science in Public Health (3)
- P H 604 Environmental Determinants of Human Health (3)
- P H 605 Health Services Administration (3)
- P H 621 Epidemiology of Infectious Diseases (3)
- P H 622 Epidemiology of Chronic Diseases (3)
- P H 623 Epidemiological Methods (3)
- P H 627 Advanced Statistical Methods in Public Health (3)
- P H 650R Field Practice: Required Community Practice (3) Cr/NC

Prescribed electives: A minimum of six units selected from the following public health courses in epidemiology:

- P H 625 Control of Infectious Diseases (3)
- P H 626 International Health Epidemiology Practicum (3)
- P H 628 Applications of Multivariate Statistics in Public Health (3)
- P H 649 Border and Global Public Health Surveillance (3)
- P H 700A Seminar in Public Health: Epidemiology (3)
- P H 722 Seminar in Clinical Trials (3)
- P H 724 Advanced Methods in Epidemiology (3)
- P H 725 Scientific Writing for Epidemiology (3) Cr/NC
- P H 726 HIV/AIDS Epidemiology and Public Health (3)
- P H 823 Case-Control Studies (3)
- P H 824 Cohort Studies (3)

Electives: Up to 12 units selected with approval of concentration faculty. These electives may include any public health course or selections from the following:

- Biology 585
- Nutrition 600, 607, 700
- Statistics 510, 550, 551A, 560, 672, 677

**Concentration in Health Management and Policy**  
(SIMS Code: 557415)  
(CAHME Accredited)

Courses required for the concentration:

- P H 601 Epidemiology (3)
- P H 602 Biostatistics (3)
- P H 603 Behavioral and Social Science in Public Health (3)
- P H 604 Environmental Determinants of Human Health (3)
- P H 605 Health Services Administration (3)
- P H 607 Research Methods (3)
- P H 612 Health Services Finance Management (3)
- P H 613 Health Services Financial Management (3)
- P H 614 Introduction to Health Services (3)
- P H 615 Health Services Management (3)
- P H 617 Health Services Administration (3)
- P H 618 Health Services Research (3)
- P H 621 Epidemiology of Infectious Diseases (3)
- P H 622 Epidemiology of Chronic Diseases (3)
- P H 623 Epidemiological Methods (3)
- P H 627 Advanced Statistical Methods in Public Health (3)
- P H 650R Field Practice: Required Community Practice (3) Cr/NC

Electives: Up to 12 units selected with approval of concentration faculty. These electives may include any public health course or selections from the following:

- Biology 585
- Nutrition 600, 607, 700
- Statistics 510, 550, 551A, 560, 672, 677

**Concentration in Health Promotion and Behavioral Science**  
(SIMS Code: 557344 - College of Extended Studies)

Courses required for the concentration:

- P H 601 Epidemiology (3)
- P H 602 Biostatistics (3)
- P H 604 Environmental Determinants of Human Health (3)
- P H 605 Health Services Administration (3)
- P H 607 Research Methods (3)
- P H 650R Field Practice: Required Community Practice (3) Cr/NC
- P H 661 Theoretical Foundations of Health Promotion (3)
- P H 662 Motivating Health Behavior (3)
- P H 663 Health Promotion Communications Theory and Design (3)
- P H 666 Health Promotion Program Planning and Assessment (3)

Electives: Up to 12 units selected with approval of concentration faculty. These electives may include any public health course or selections from the following:

- Biology 585
- Nutrition 600, 607, 700
- Statistics 510, 550, 551A, 560, 672, 677

**Concentration in Health Management and Policy**  
(SIMS Code: 557415)  
(CAHME Accredited)

Courses required for the concentration:

- P H 601 Epidemiology (3)
- P H 602 Biostatistics (3)
- P H 603 Behavioral and Social Science in Public Health (3)
- P H 604 Environmental Determinants of Human Health (3)
- P H 605 Health Services Administration (3)
- P H 607 Research Methods (3)
- P H 612 Health Services Finance Management (3)
- P H 613 Health Services Financial Management (3)
- P H 614 Introduction to Health Services (3)
- P H 615 Health Services Management (3)
- P H 617 Health Services Administration (3)
- P H 618 Health Services Research (3)
- P H 621 Epidemiology of Infectious Diseases (3)
- P H 622 Epidemiology of Chronic Diseases (3)
- P H 623 Epidemiological Methods (3)
- P H 627 Advanced Statistical Methods in Public Health (3)
- P H 650R Field Practice: Required Community Practice (3) Cr/NC

Electives: Up to 12 units selected with approval of concentration faculty. These electives may include any public health course or selections from the following:

- Biology 585
- Nutrition 600, 607, 700
- Statistics 510, 550, 551A, 560, 672, 677

**Concentration in Health Promotion and Behavioral Science**  
(SIMS Code: 557344 - College of Extended Studies)

Courses required for the concentration:

- P H 601 Epidemiology (3)
- P H 602 Biostatistics (3)
- P H 604 Environmental Determinants of Human Health (3)
- P H 605 Health Services Administration (3)
- P H 607 Research Methods (3)
- P H 650R Field Practice: Required Community Practice (3) Cr/NC
- P H 661 Theoretical Foundations of Health Promotion (3)
- P H 662 Motivating Health Behavior (3)
- P H 663 Health Promotion Communications Theory and Design (3)
- P H 666 Health Promotion Program Planning and Assessment (3)

Electives: Up to 12 units selected with approval of concentration faculty. These electives may include any public health course or selections from the following:

- Biology 585
- Nutrition 600, 607, 700
- Statistics 510, 550, 551A, 560, 672, 677

**Master of Science Degree in Public Health**

**Admission to the Degree Curriculum**

The M.S. degree in Public Health is offered with a concentration in environmental health sciences.

To be considered for admission to this program, a student must have successfully completed an undergraduate degree (BA or BS) in biology, chemistry, engineering, or other basic or applied natural science. The Graduate School of Public Health should be consulted for specific course preparation recommended for the Master of Science program. In some cases, if an applicant is deficient in certain basic or applied science areas, some remedial coursework can be completed as an unclassified graduate student. However, credits earned by remedial courses cannot be applied toward the required number of units for the master's degree. Students who do not meet all of the above requirements for admission with classified graduate standing may be admitted conditionally classified graduate standing upon the recommendation of the admissions committee and the graduate adviser. Students so admitted will be advised as to remedial steps to take to satisfy the requirement to achieve classified graduate standing.

Prescribed electives: Three units selected with approval of adviser. In special circumstances, the graduate adviser may approve one course not on the list of prescribed electives. The substitution must be approved prior to enrollment in the course.

- P H 700E Seminar in Public Health: Health Management and Policy (3)
- P H 743 Hospital and Ambulatory Health Systems Management (3)

**Concentration in Health Promotion and Behavioral Science**  
(SIMS Code: 557344 - College of Extended Studies)

Courses required for the concentration:

- P H 601 Epidemiology (3)
- P H 602 Biostatistics (3)
- P H 604 Environmental Determinants of Human Health (3)
- P H 605 Health Services Administration (3)
- P H 607 Research Methods (3)
- P H 650R Field Practice: Required Community Practice (3) Cr/NC
- P H 661 Theoretical Foundations of Health Promotion (3)
- P H 662 Motivating Health Behavior (3)
- P H 663 Health Promotion Communications Theory and Design (3)
- P H 666 Health Promotion Program Planning and Assessment (3)

Electives: Up to 12 units selected with approval of concentration faculty from any graduate level public health course.
Advancement to Candidacy

All students must meet the general requirements for advancement to candidacy as described in Part Four of this bulletin. Students completing the Master of Science degree with a concentration in environmental health sciences must (1) have satisfactorily completed at least 12 units of coursework of the 36-unit official program to include at least two courses chosen from the list of courses required with a minimum grade point average of 3.0 (B) and no grade less than a B-; (2) have a thesis proposal which has received the approval of the Faculty Adviser; (3) complete all core courses in Public Health and Latin American Studies; (4) have earned at least 24 units of graduate study within the concurrent program with a minimum grade point average of 3.0 and no grade less than a B- in each core course; (5) complete with a grade of B (3.0) or better, Spanish 302 or Portuguese 401, or three units of 500-level or graduate coursework in Spanish, or pass the American Council on the Teaching of Foreign Language (ACTFL) oral proficiency examination in either Spanish or Portuguese with a score of 2.0 or above; (6) have been recommended for advancement by the combined faculty advisory committee; and (7) have an approved concurrent program of study; and (8) have a thesis proposal approved by the combined faculty advisory committee, which must include at least one faculty member from Latin American Studies and one faculty member from Public Health.

Upon advancement to candidacy, the student will enroll in Public Health 797, 798, 799A (Thesis). All students in the concurrent degree program are required to complete a thesis. This thesis will incorporate theory, method, and analytic techniques from both Public Health and Latin American Studies. The thesis topic and chair will be determined by the student and the faculty advisory committee.

Specific Requirements for Master of Science Degree Programs

Concentration in Environmental Health Sciences

(Major Code: 12141) (SIMS Code: 557394)

<table>
<thead>
<tr>
<th>Courses Required</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>P H 601 Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>P H 602 Biostatistics</td>
<td>3</td>
</tr>
<tr>
<td>P H 604 Environmental Determinants of Human Health</td>
<td>3</td>
</tr>
<tr>
<td>P H 638A Principles of Toxicology</td>
<td>3</td>
</tr>
<tr>
<td>P H 639 Water Quality Investigation</td>
<td>3</td>
</tr>
</tbody>
</table>

Prescribed electives: A minimum of 12 units of coursework selected from the following list with the approval of the faculty adviser.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>P H 603 Behavioral and Social Science in Public Health</td>
<td>3</td>
</tr>
<tr>
<td>P H 605 Health Services Administration</td>
<td>3</td>
</tr>
<tr>
<td>P H 627 Advanced Statistical Methods in Public Health</td>
<td>3</td>
</tr>
<tr>
<td>P H 630 Environmental Health Risk Assessment</td>
<td>3</td>
</tr>
<tr>
<td>P H 632 Air Quality</td>
<td>3</td>
</tr>
<tr>
<td>P H 634 Environmental Protection</td>
<td>3</td>
</tr>
<tr>
<td>P H 636 Hazardous Waste Management</td>
<td>3</td>
</tr>
<tr>
<td>P H 650R Field Practice: Required Community Practice</td>
<td>Cr/NC</td>
</tr>
<tr>
<td>P H 700D Seminar in Public Health: Environmental Health</td>
<td>3</td>
</tr>
<tr>
<td>P H 784 Global Environmental Health</td>
<td>3</td>
</tr>
<tr>
<td>P H 798 Special Study (1-3) Cr/NC/RP</td>
<td></td>
</tr>
</tbody>
</table>

In special circumstances, the graduate adviser may approve one course not on the list of prescribed electives. The substitution must be approved prior to enrollment in the course.
Specific Requirements for the MPH/MA Degree

(Major Code: 49062) (SIMS Code: 997310)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Four of this bulletin, the student must complete an officially approved course of study of not less than 63 units as listed below.

<table>
<thead>
<tr>
<th>General Requirements</th>
<th>Total General Units = 39</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Courses (18 units)</td>
<td>Prescribed Electives (15 units from at least two departments)</td>
</tr>
<tr>
<td>LATAM 600 (3)</td>
<td>LATAM 550 (3)</td>
</tr>
<tr>
<td>LATAM 601 (3)</td>
<td>LATAM 580 (3)*</td>
</tr>
<tr>
<td>P H 601 (3)</td>
<td>LATAM 696 (3)*</td>
</tr>
<tr>
<td>P H 602 (3)</td>
<td>LATAM 750 (3)</td>
</tr>
<tr>
<td>P H 604 (3)</td>
<td>LATAM 795 (3)</td>
</tr>
<tr>
<td>P H 605 (3)</td>
<td>LATAM 798 (3)</td>
</tr>
<tr>
<td>ANTH 508 (3)</td>
<td>HIST 550 (3)</td>
</tr>
<tr>
<td>ANTH 520 (3)</td>
<td>HIST 551 (3)</td>
</tr>
<tr>
<td>ANTH 529 (3)</td>
<td>HIST 558 (3)</td>
</tr>
<tr>
<td>ANTH 531 (3)</td>
<td>HIST 580 (3)*</td>
</tr>
<tr>
<td>ANTH 533 (3)*</td>
<td>HIST 640 (3)*</td>
</tr>
<tr>
<td>ANTH 582 (3)*</td>
<td>POL S 555 (3)</td>
</tr>
</tbody>
</table>

Public Health Concentration Requirements

Total Units = 24

(Students must complete one of the following concentrations)

<table>
<thead>
<tr>
<th>Epidemiology Concentration (SIMS Code: 997311)</th>
<th>Health Promotion and Behavioral Science Concentration (SIMS Code: 997314)</th>
<th>Environmental Health Concentration (SIMS Code: 997313)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Epidemiology Units = 24</td>
<td>Total Health Promotion and Behavioral Science Units = 24</td>
<td>Total Environmental Health Units = 24</td>
</tr>
<tr>
<td>Required Courses (15 units)</td>
<td>Required Courses (15 units)</td>
<td>Required Courses (21 units)</td>
</tr>
<tr>
<td>P H 603 (3)</td>
<td>P H 607 (3)</td>
<td>P H 603 (3)</td>
</tr>
<tr>
<td>P H 621 (3)</td>
<td>P H 661 (3)</td>
<td>P H 632 (3)</td>
</tr>
<tr>
<td>P H 622 (3)</td>
<td>P H 662 (3)</td>
<td>P H 634 (3)</td>
</tr>
<tr>
<td>P H 623 (3)</td>
<td>P H 666 (3)</td>
<td>P H 636 (3)</td>
</tr>
<tr>
<td>P H 627 (3)</td>
<td></td>
<td>P H 639A (3)</td>
</tr>
<tr>
<td>Prescribed Electives (6 units)</td>
<td>Prescribed Electives (6 units)</td>
<td>P H 650R (3) Cr/NC</td>
</tr>
<tr>
<td>P H 625 (3)</td>
<td>P H 664 (3)</td>
<td>P H 639 (3)</td>
</tr>
<tr>
<td>P H 626 (3)</td>
<td>P H 667 (3)</td>
<td>P H 636 (3)</td>
</tr>
<tr>
<td>P H 628 (3)</td>
<td>P H 668 (3)</td>
<td>P H 639A (3)</td>
</tr>
<tr>
<td>P H 649 (3)</td>
<td>P H 700F (3)</td>
<td>P H 650R (3) Cr/NC</td>
</tr>
<tr>
<td>P H 700A (3)</td>
<td></td>
<td>P H 700D (3)</td>
</tr>
<tr>
<td>Electives (3 units)</td>
<td>Electives (3 units)</td>
<td>P H 784 (3)</td>
</tr>
<tr>
<td>BIOL 585,</td>
<td>Three units to be selected with the</td>
<td>P H 798 (1-6) Cr/NC/RP</td>
</tr>
<tr>
<td>NUTR 600, 607, 700,</td>
<td>approval of the faculty advisory</td>
<td></td>
</tr>
<tr>
<td>STAT 510, 550, 551A, 560, 672, 677,</td>
<td>committee.</td>
<td></td>
</tr>
<tr>
<td>or three units of electives to be selected</td>
<td></td>
<td></td>
</tr>
<tr>
<td>with approval of the faculty advisory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>committee.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Acceptable when of relevant content; check with the Latin American Studies graduate adviser before enrolling.

Master of Social Work Degree and Master of Public Health Degree

General Information

The Graduate School of Public Health and the School of Social Work offer a three year concurrent graduate program leading to a Master of Public Health and a Master of Social Work. The major objective of the concurrent program is to offer preparation in the fields of public health and social work for the purpose of providing the knowledge and skills necessary to promote health, prevent disease, and enhance the delivery of social and health services in the community.

Admission to the Degree Curriculum

Applicants should refer to the admission to master's and doctoral study section for application instructions. In order to be considered for the concurrent MSW/MPH program, applicants must meet the general requirements for admission to graduate study at the university (see Part Four of this bulletin).

Applicants must have a minimum 2.85 grade point average in the last 60 semester or 90 quarter units in undergraduate work completed. Undergraduate preparation in at least one of the following areas is preferred: social work, social or behavioral sciences, or health science. Applicants must have a satisfactory score on the GRE General Test. Applicants already holding another master's degree or higher degree from an acceptable accredited graduate school are exempt from the GRE (see Part Four of this bulletin).
Public Health

A committee composed of faculty from Public Health and Social Work will make all admission recommendations to the dean of the Division of Graduate Affairs.

Advancement to Candidacy

All students must meet the general requirements for advancement to candidacy as described in Part Four of this bulletin. All core courses in public health and social work must be completed prior to advancement. In addition, the student must: (1) have earned at least 24 units of graduate study within the concurrent program with a minimum grade point average of 3.0 and no grade less than a B– in each core course; (2) have been recommended for advancement by the combined faculty advisory committee; (3) have a thesis proposal approved by the combined faculty advisory committee.

Upon advancement to candidacy, the student will enroll in Public Health 797 (Research), Social Work 797 (Research), and Public Health 799A (Thesis) or Social Work 799A (Thesis). A thesis incorporating theory, method, and analytic techniques from both disciplines is the culminating experience for the concurrent program leading to the MSW and MPH degrees.

Specific Requirements for the MSW/MPH Degree
(Major Code: 12991) (SIMS Code: 996210)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master’s degree as described in Part Four of this bulletin, the student must complete an officially approved course of study of not less than 93 units.

Social Work/Public Health - Health Management and Policy (SIMS Code: 986221)

SWORK 601 Seminar in Social Welfare Policy and Services (3)
SWORK 619 Human Behavior in the Social Environment (3)
SWORK 620A Seminar in Human Behavior and Social Environment: Direct Practice (3)
SWORK 630 Social Work Practice: A Generalist Perspective (3)
SWORK 631 Social Work Practice: Individuals, Families, Groups (3)
SWORK 632 Social Work and Gerontology: Organizations and Communities (3)
SWORK 650* Field Practicum (7) Cr/NC
SWORK 690* Seminar in Research Methods for Social Work and Gerontology (3)
GERO 690 Seminar in Selected Topics in Human Behavior and Social Environment (3)
SWORK 740 Advanced Seminar in Administration and Community Development in Social Work and Gerontology (3)
SWORK 755* Advanced Field Practicum: Social Work Administration and Community Development (8) Cr/NC/RP
SWORK 797 Research (3) Cr/NC/RP
PH 601 Epidemiology (3)
PH 602 Biostatistics (3)
PH 604 Environmental Determinants of Human Health (3)
PH 641 Introduction to Health Services (3)
PH 644A Health Services Organization Management (3)
PH 644B Managing High Performing Health Care Organization (3)
PH 645 Health Economics (3)
PH 647 Quantitative Methods and Health Data Analysis (3)
PH 648 Health Policy (3)
PH 742A Health Services Financial Management (3)
PH 742B Health Insurance and Financing Systems (3)
PH 747 Quality Improvement and Program Evaluation (3)
PH 748 Health Services Competitive Strategy and Marketing (3)
PH 797 Research (3) Cr/NC/RP
PH 799A or Thesis (3) Cr/NC/RP
SWORK 799A Thesis (3) Cr/NC/RP

Electives: Three units of social work electives - recommended:
SWORK 745 Advanced Seminar in Selected Topics in Social Work Administration (3)

Transfer units will not be accepted toward the concurrent MSW/MPH degree program. Graduate study or degrees obtained previously will not be accepted toward meeting the unit requirements of the concurrent MSW/MPH degree program. If a student, after entering the concurrent MSW/MPH program returns to a single degree program, all of the requirements for the single degree program must then be met.

* Social Work 650 and 755 must have the approval of the faculty advisory committee. Responsibility for faculty field supervision will be assigned in social work.

Section II.
Doctoral Program
http://publichealth.sdsu.edu

A Ph.D. is offered in three concentration areas, epidemiology, global health, and health behavior.

Ph.D. in Public Health with a Concentration in Epidemiology
(Major Code: 12141) (SIMS Code: 557329)

A Ph.D. in public health with a concentration in epidemiology is offered by the joint faculties of the Division of Epidemiology and Biostatistics, Graduate School of Public Health at San Diego State University, and the Department of Family and Preventive Medicine, School of Medicine at the University of California, San Diego (UCSD). Emphasis is on producing graduates with a mastery of the central concepts and analytic processes of epidemiology for application to a multitude of disciplines. Specializations are offered through both campuses, including infectious and chronic diseases, global health, exercise science, medical geography, and behavioral epidemiology. Graduates of this program are competitive for a variety of research, teaching, and community service positions in areas such as academic institutions, local and state health departments, federal and international agencies, and both privately and publicly sponsored research institutes.

Ph.D. in Public Health with a Concentration in Global Health
(Major Code: 12141) (SIMS Code: 557411)

A Ph.D. in public health with a concentration in global health is offered by the joint faculties of the Graduate School of Public Health at San Diego State University (SDSU), and the School of Medicine at the University of California, San Diego (UCSD). Global health relates to health issues and concerns that transcend national borders, class, race, ethnicity, and culture. Studies in global health stress the commonality of health issues for the United States and international partners, and involve collective, science-based interventions to resolve these issues. Knowledge about how national governments, multi-national organizations, non-governmental organizations, and the private sector must work together is essential to the success of global health programs. Emphasis is on preparing graduates with the fundamental scientific knowledge, ethical understanding, and specific skills to become public health researchers and professional leaders in multiple settings. Proximity to the U.S./Mexico border and the expertise of many current faculty members at both SDSU and UCSD support and encourage a focus on transborder problems including infectious diseases (e.g., HIV, TB, STDs), non-communicable diseases (diabetes, CVD), and migrant health. Students may develop other areas of specialization such as environmental health, health policy, geographic information systems, and maternal/child health. Required and elective courses include global health practice and theory, program planning and evaluation, emerging infectious diseases, advanced epidemiology and biostatistics, research methods, environmental health, and global maternal/child health. In addition to didactic classes at both partner institutions, students will be expected to complete an international field practicum involving research, policy work, or cultural training. Graduates of the program are competitive for a variety of research, teaching and service positions in academic institutions, governmental and non-governmental organizations, and businesses with global health interests both within and outside of the United States.

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Ph.D. in Public Health with a Concentration in Health Behavior  
(Major Code: 12143) (SIMS Code: 557321)  

A Ph.D. in public health with a concentration in health behavior is offered by the joint faculties of the Division of Health Promotion and Behavioral Science, Graduate School of Public Health at San Diego State University, and the Department of Family and Preventive Medicine, School of Medicine at the University of California, San Diego (UCSD). Emphasis is on producing graduates with a mastery of the central concepts and analytic processes of health behavioral sciences. Graduates of the program are expected to establish advanced skills in behavior change theory and practice; to establish expertise in advance qualitative and quantitative research methods; to establish advanced skills in the application of interventions and research methods to health behavior in disenfranchised populations; and to establish skills necessary to understand and change health policy. Graduates of the program are expected to establish advanced skills in public health, and be prepared to become leaders in health behavior research and policy development.

Admission to the Degree Curriculum

Applicants for admission to the doctoral program must present evidence of capacity for graduate study in public health. A multi-disciplinary field such as public health draws from a wide variety of undergraduate majors, but the student is expected to have a strong grounding in the quantitative, behavioral, and biological sciences. A master's degree in an area related to the concentration is preferred. Admission to the program requires acceptance by both institutions on recommendation of the participating units at SDSU and UCSD. It is understood that acceptance of a student into the joint program by both institutions requires that the student meets the general requirements for graduate admissions and also the available facilities.

To be considered for admission to the joint SDSU-UCSD doctoral program in public health, students must meet the general requirements for admission to both universities with classified graduate standing as outlined in the respective current catalogs. These include (a) an acceptable baccalaureate degree from an institution accredited by a regional accrediting association or equivalent academic preparation, as determined by the deans of the two Divisions of Graduate Affairs; (b) a GPA of at least 3.0 in the last 60 semester (90 quarter) units attempted; (c) good standing at the last institution attended; and (d) an acceptable score (verbal and quantitative) on the GRE General Test. Preference will be given to students with an M.P.H. or M.S. degree in behavioral science or epidemiology.

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 San Diego State University and University of California, San Diego.

Advisory Committee

Upon admission to the program, the steering committee of the two institutions will establish an advisory committee for the student. This committee will consist of three faculty members chosen jointly from the two institutions. In consultation with the student, the committee will develop the student's course of study, prepare and guide a preliminary examination, and establish the student's joint qualifying committee. At least one member of the advisory committee must be from SDSU and one from UCSD.

Course Requirements

Core courses in behavioral science, epidemiology, and biostatistics are offered at both SDSU and UCSD. Prior to taking the preliminary examination, every student is expected to have a firm understanding of modern principles of public health as well as knowledge and application of biostatistics, behavioral science, and epidemiology. Elective coursework may be selected from offerings at both campuses.

Course Requirements for Students with an Existing M.P.H. or M.S. Degree in Epidemiology

Epidemiology: Public Health 623, 724, 800 (Doctoral Seminar in Epidemiology), 823, 824; and six-unit UCSD course series in applied epidemiology (FPM 258A, 258B, 258C, 259A, 259B, 259C).

Biostatistics: Public Health 628 and six units in advanced biostatistics.

Electives: 24 units in specialty area.

Graduate Assistantship in Epidemiology: 6 units

Dissertation Research and Proposal: 15 units

Students who do not possess an existing M.P.H. or M.S. degree in epidemiology are required to take the following additional courses: Public Health 601, 602, 621, 622, and 627. Once the student is matriculated at SDSU, the final curriculum will be determined by the doctoral advising committee.

Preliminary Examinations

The preliminary examinations will test knowledge and the application of epidemiology and biostatistical methods.

Course Requirements for Students with an Existing M.P.H. Degree


Electives: Six or more units in specialty areas to include Public Health 784 and courses selected from other departments with the approval of the advisor.

International Practicum: Field Experience: 3-12 units

Dissertation Research and Proposal: 15 units

Students who do not possess an existing M.P.H. or M.S. degree in Public Health are required to take the following additional courses: Public Health 601, 602, and 627. Once the student is matriculated at SDSU, the final curriculum will be determined by the doctoral advising committee.

Course Requirements for Students with an Existing M.P.H. or M.S. Degree in Behavioral Science

Behavioral Science: Public Health 800 (Doctoral Seminar in Health Behavior), 800 (Professional Seminar in Public Health), 861, 862, 864, 867, and a series of health behavior and epidemiology courses at UCSD (36 units).

Biostatistics: Public Health 627 and 798 (SAS or SPSS) for both semesters.

Electives: 3 units

Graduate Assistantship: 6 units

Dissertation Research and Proposal: 15 units

Students who do not possess an existing M.P.H. or M.S. degree are required to take one epidemiology course. Once the student is matriculated at SDSU, the final curriculum will be determined by the doctoral advising committee.

Doctoral Committee

A five-member committee, composed of faculty at SDSU and UCSD, will be recommended by the advisory committee for each student and approved by the graduate deans from both campuses. One member must be non-program faculty and there must be at least one tenured faculty member from each university. The student's dissertation adviser will chair the committee. At least two members must be from SDSU and two from UCSD.

The doctoral committee will conduct a written and oral comprehensive qualifying examination, which will evaluate the student's understanding and knowledge of his or her special area of behavioral science, epidemiologic interest, or global health. The purpose of this examination is to demonstrate competence in the major research field.
The doctoral 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 Division of Graduate Affairs 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 advancement to candidacy by the UCSD Division of Graduate Affairs.

Faculty
Faculty members of the cooperating institutions participate in the joint doctoral program in Public Health Epidemiology and are available for direction of research and as members of joint doctoral committees.

Dissertation
Following successful completion of the qualifying examination and advancement to candidacy, 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 the dissertation adviser, who may be from either SDSU or UCSD. The doctoral committee becomes the dissertation committee after the student’s advancement to candidacy. Requirements currently in force at SDSU and UCSD must be met for completing and filing the dissertation.

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

Financial Support
The Graduate School of Public Health at SDSU and the Department of Community and Family Medicine at UCSD endeavors to provide financial support that will enable all students to devote full time to research training and study.

Medical Students Interested in Obtaining the Master of Public Health (M.P.H.) Degree
San Diego State University, Graduate School of Public Health, and University of California, San Diego, School of Medicine, offer a collaborative education effort to enable UCSD medical students to also obtain the M.P.H. degree. The program is designed for those UCSD medical students who anticipate careers in one or more of the following fields: public health, preventive medicine, maternal and child health, epidemiology, environmental health, health promotion and behavioral science, health management and policy, or aerospace medicine, and to those with special interest in such areas as nutrition, demography, international health, and behavioral medicine. In addition, it provides public health training for those planning careers in family practice, pediatrics, general internal medicine, and other aspects of primary care who wish to enhance their knowledge and skills in clinical preventive medicine and in the managerial aspects of health care. The M.P.H. degree or an equivalent academic experience is required for certification by the American Board of Preventive Medicine.

With approval, certain UCSD courses can be counted toward fulfilling the M.P.H. degree requirement at the SDSU Graduate School of Public Health.

Further information about these programs can be obtained from the Dean of Students, Maria Savoia, M.D., 858-534-3703.

Section III.
Certificate Programs

Preventive Medicine Residency Certificate
(SIMS Code: 555501)

The purpose of the Preventive Medicine Residency Certificate is to train physicians to assure that they have adequate knowledge, attitudes, and skills germane to general preventive medicine and occupational medicine. The physician will be eligible to sit for the board certification examination administered by the American Board of Preventive Medicine.

In addition to satisfying the requirements for admission to the university with classified graduate standing, as described in Part Two of this bulletin, the student seeking admission to the preventive medicine residency must (1) fulfill the admission requirements given above, and (2) have completed a Doctor of Medicine degree from an accredited institution.

The student will be expected to complete a three year course of study which involves the completion of a clinical year provided by the University of California, San Diego, School of Medicine, the completion of an academic year leading to the Master of Public Health degree provided by the Graduate School of Public Health at San Diego State University, and appropriate practicum experiences under the supervision of faculty of one of the two cooperating institutions.

The student is expected to complete the number of units required for the Master of Public Health degree as well as those additional units which may be prescribed in order to complete the practicum year, i.e., Public Health 750.

The student is expected to have maintained a 3.0 average overall in the coursework at the Graduate School of Public Health and at the University of California, San Diego, School of Medicine.

Preventive Medicine Residency Faculty:
Linda L. Hill, M.D., M.P.H., Director, Adjunct Associate Professor of Public Health
Kevin M. Patrick, M.D., M.S., Adjunct Professor of Public Health, Associate Director
Wilma Wooten, M.D., M.P.H., Adjunct Associate Professor of Public Health

Public Health Certificate
(SIMS Code: 557389)

The Advanced Certificate in Public Health offers individuals the opportunity to understand core public health principles, prepare for responsibilities or promotion in a public health setting, or offers an opportunity to determine if the Master of Public Health degree program is of interest to pursue. The advanced certificate also provides additional formal education in the public health field. Students who successfully complete the advanced certificate program can apply all 15 units to the Master of Public Health degree if admitted into the degree program in the Graduate School of Public Health.

Admission Requirements
Applicants must have earned a bachelor’s degree in biology, chemistry, health science, nursing, social work, or another health-related degree. A degree in a discipline not specifically mentioned must be approved by the Director of the Graduate School of Public Health. Applications may be submitted prior to entering the advanced certificate program or before the completion of nine semester units of coursework that is applicable to the advanced certificate in public health.

Contact the Graduate School of Public Health admissions coordinator for further information.

Course Requirements (15 units)
Students must complete the following courses with a grade of C (2.0) or better and a GPA of 3.0 or better.

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Courses Acceptable for Master's and Doctoral Degree Programs (P H)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

GRADUATE COURSES

P H 601. Epidemiology (3)
Prerequisite: Consent of instructor.
Descriptive, analytic, and experimental epidemiology. Distribution and determinants of diseases; role of epidemiology in public health. Two lectures and three hours of laboratory.

P H 602. Biostatistics (3)
Prerequisite: Consent of instructor.
Statistical reasoning applied to public health; probability, hypothesis testing, regression and correlation, analysis of variance. Two lectures and three hours of laboratory.

P H 603. Behavioral and Social Science in Public Health (3)
Prerequisites: Psychology 316, 340, and Sociology 436.
Role of psychological, social and environmental variables in health and illness. Multifactorial psychosocial model of disease susceptibility. Two lectures and three hours of laboratory.

P H 604. Environmental Determinants of Human Health (3)
Prerequisite: Consent of instructor.
Environmental determinants and their influence on human health. Biological, physical, and chemical factors which affect the health of a community.

P H 605. Health Services Administration (3)
Prerequisite: Consent of instructor.
Overview of health services administration and delivery in U.S. Characteristics of utilization of health care, financing and system structure, types of providers, nonfinancial resources, and assessment and regulations.

P H 607. Research Methods (3)
Prerequisites: Public Health 601, 661, and consent of instructor. Recommended: Public Health 602.
Two lectures and three hours of laboratory. Laboratory exercises and proposal writing applicable to public health.

P H 621. Epidemiology of Infectious Diseases (3)
Prerequisite: Public Health 601.
Utilizing selected infectious diseases and environmental settings, provides scientific background on which epidemiological investigations and control measures are based.

P H 622. Epidemiology of Chronic Diseases (3)
Prerequisite: Public Health 601.
Epidemiology of selected chronic diseases.

P H 623. Epidemiological Methods (3)
Prerequisites: Public Health 602, 621 or 622.
Topics include: analysis of descriptive data, design of studies, evaluation of data, development of biological models. Examples of both acute and chronic diseases.

P H 624A. Emergency Preparedness and Response I (3)
Prerequisite: Classified graduate standing.
Dynamics of natural and man-made disaster management to include planning, organization, management of relief services, and emergency service organizations. Prevention, mitigation, and response to emergency situations, both nationally and internationally.

P H 625. Control of Infectious Diseases (3)
Prerequisite: Public Health 621.
Theoretical and practical experience in techniques available for control of infectious diseases.

P H 629. International Health Epidemiology Practicum (3)
Prerequisites: Public Health 601 and 602.
Integrated public health experience with US and Mexican graduate student and faculty teams, culminating with four days in Mexico. International public health projects in underserved indigenous populations.

P H 627. Advanced Statistical Methods in Public Health (3)
Prerequisite: Public Health 602.
Applications of advanced statistical methods for analysis of public health and biomedical data. Topics include multiple linear regression, analysis of variance, logistic regression, and introduction to survival analysis.

P H 628. Applications of Multivariate Statistics in Public Health (3)
Prerequisite: Public Health 627.
Statistical methods for multivariate problems in public health including regression diagnostics, cluster analysis, discriminant analysis, principal components, multivariate discrete analysis and Poisson regression. Computer applications included.

P H 630. Environmental Health Risk Assessment (3)
Four major steps of risk assessment to include hazard identification, dose-response assessment, exposure assessment, and risk characterization. Will also include risk communication and risk management in environmental arena.

P H 632. Air Quality (3)
Prerequisite: Consent of instructor.

P H 634. Environmental Protection (3)
Rationale and mechanisms for control of environmental hazards in areas of food protection and vector control, solid waste, and community issues.

P H 635. Environmental and Disaster Medicine (3)
Prerequisites: Public Health 601 and 602.
Etiology, diagnosis of disease, and stress in the modern global environment. Detection and control of intentional biological, chemical disasters, and nuclear threats.

P H 636. Hazardous Waste Management (3)
Prerequisites: Consent of instructor.
Rationale, methods, and regulations governing the proper management of hazardous and toxic wastes.

P H 638A. Principles of Toxicology (3)
Prerequisite: Consent of instructor.
Dose-response and other principles for evaluating the effects of toxic chemicals on mammalian organ systems.

P H 639. Water Quality Investigation (3)
Two lectures and three hours of laboratory.
Human health problems associated with water usage and with various aquatic environments.

P H 641. Introduction to Health Services (3)
Health care systems in the U.S. Underlying needs, insurance and uninsurance, public programs, reimbursement, managed care, resources, providers, regulation, outcome measurement and evaluation, and health policy issues.

P H 644A. Health Services Organization Management (3)
Prerequisites: Consent of instructor.
Structure and functioning of organizations that provide and finance health services using a systems theory approach to visions/goals, strategies, structure, and processes. Functions of managers in health care organizations, focusing on interpersonal, informational, decision, ethical, and conflict resolution roles. (Formerly numbered Public Health 644.)

P H 644B. Managing High Performing Health Care Organization (3)
Prerequisite: Consent of instructor.
Applications of management theory to health care organizations. Organizational change for performance, behavior, quality management, law and ethics, human resource management, and information technology.

P H 645. Health Economics (3)
Prerequisite: Public Health 644.
Economics of health care, including supply and demand factors, efficiency, incentives facing physicians, hospitals, and health plans, economic evaluation of provider performance, health workforce issues, and cost-effectiveness analysis.

P H 647. Quantitative Methods and Health Data Analysis (3)
Prerequisites: Public Health 602 and 641.
Quantitative methods and data analyses in health services administration. Topics include decision analysis, forecasting and regression, project management techniques, data analysis, and data and information management applications.

P H 648. Health Policy (3)
Prerequisite: Consent of instructor.
History and future of health policy. Research on major health policy issues including economic, social, ethical, and political forces that influence priorities and decisions. Role of government and private sector in health care.

P H 649. Border and Global Public Health Surveillance (3)
Prerequisites: Public Health 601 and 602.
Data sources for border and global surveillance, including hospital system syndromic data. Methods of data quality control, data analysis, and alerting and communication of information.
P H 650. Field Practice (3-6) Cr/NC
Field instruction in public health settings. Application of public health principles and skills to practical problems. Maximum credit six units of Public Health 650 applicable to a master's degree.
A. Epidemiology
B. Environmental Health
C. Health Promotion and Behavioral Science
D. Preventive Medicine
E. Required Community Practice

P H 661. Theoretical Foundations of Health Promotion (3)
Prerequisite: Public Health 290.
Psychological, sociological, economic, and political theories relevant to the mission and processes of health promotion.
P H 662. Motivating Health Behavior (3)
Prerequisite: Public Health 303.
Application of behavioral change techniques and health education methodology to health promotion targeting individuals and whole communities.
P H 663. Health Promotion Communications Theory and Design (3)
Prerequisite: Public Health 402.
Theory, design and implementation of health education communications in community contexts. Extensive use of student design, analysis, and projects.
P H 664. Health, Society and Human Behavior (3)
Prerequisites: Psychology 101, Sociology 101.
Historical and contemporary examination of health problems of individuals and communities. Health needs, resources; impact of society on health and health on society.
P H 666. Health Promotion Program Planning and Assessment (3)
Prerequisite: Public Health 661.
Program planning and assessment, theories, systems and procedures relevant to health promotion and education.
P H 667. Prevention and Control of Chronic Diseases (3)
Prerequisites: Public Health 601 and 602.
Health promotion strategies for modification of individual behaviors and social practices to lower risk of chronic disease.
P H 668. Seminar in Health Promotion Research (3)
Prerequisite: Graduate standing in public health.
Philosophical, ethical and methodological issues in current health promotion research and services.
P H 668. Geographic Information Systems and Public Health Spatial Analysis (3)
Two lectures and two hours of activity.
Prerequisites: Public Health 601 and 602.
Theoretical concepts of geographic information systems (GIS) and applications of GIS in public health. ArcGIS 9 software to illustrate the capabilities and uses of GIS in both academic research and regulatory decision making.
P H 696. Contemporary Topics in Public Health (1-3)
Intensive study in specific areas of public health and health services administration. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.
P H 700. Seminar in Public Health (1-3)
Prerequisites: Public Health 601, 602, and 603.
Investigation of current problems in one of the fields of public health. May be repeated with new content. See Class Schedule for specific content. Maximum credit nine units of Public Health 700 applicable to a master's degree. These units may be in a single concentration area or any of the public health concentration areas.
A. Epidemiology
B. Environmental Health
C. Health Promotion and Behavioral Science
D. Preventive Medicine

P H 724. Advanced Methods in Epidemiology (3)
Prerequisites: Public Health 601, 623, and 627.
In-depth methodological issues in performance and interpretation of epidemiological studies. Study design, cluster analysis, effect modification, accuracy and precision, adjustment of attributable risk, life tables, Kaplan-Meier, Cox proportional hazards modeling, and meta-analysis.
P H 725. Scientific Writing for Epidemiology (3) Cr/NC
Prerequisite: Completion of one year of master's level coursework in epidemiology or biometry.
Prepares students to generate a feasible hypothesis, perform, organize and write a literature review, and summarize proposed methodology. Topics include research development and organization, finding data sources, principles of scientific writing and revising, plagiarism, and citation management.
P H 726. HIV/AIDS Epidemiology and Public Health (3)
Prerequisite: Public Health 601. Recommended: Public Health 621.
State-of-the-art review of HIV and AIDS within a public health framework. Biology, transmission, host susceptibility, screening and surveillance, domestic and international epidemiology, study design, intervention, and options for prevention (including community-based trials).
P H 742A. Health Services Financial Management (3)
Prerequisite: Graduate standing in public health.
P H 742B. Health Insurance and Financing Systems (3)
Prerequisite: Public Health 742A.
U.S. healthcare financial systems at macro-level. Principles of public programs and private health insurance, types of reimbursement for healthcare organizations and providers, issues of cost containment, effects of uninsured and underinsured, and financial practices of other advanced nations.
P H 743. Hospital and Ambulatory Systems Management (3)
Prerequisites: Public Health 641 and 644A.
Organization and management of hospitals, integrated healthcare systems, medical group practices, and other ambulatory or outpatient facilities. Emphasis on service provision, programs, and plans. San Diego regional healthcare organizations highlighted.
P H 747. Quality Improvement and Program Evaluation (3)
Prerequisite: Public Health 647.
Health services quality measurement and improvement to include quality systems policy and management; outcomes and performance measurement; process quality improvement methods; program evaluation methods; development of evidenced-based practices and electronic medical records; and administrative databases.
P H 748. Health Services Competitive Strategy and Marketing (3)
Prerequisite: Public Health 648B.
Ways in which healthcare organizations can gain and sustain competitive advantage. Both organization and service level competition and strategies/tactics examined.
P H 750. Advanced Field Practice (3-6) Cr/NC
Prerequisite: Public Health 650.
Field instruction in public health setting. Application of public health principles and skills to public health problems. Maximum credit six units of Public Health 750 applicable to a master's degree.
A. Epidemiology
B. Environmental Health
C. Health Promotion and Behavioral Science
D. Preventive Medicine

P H 762. Behavioral Medicine (3)
Prerequisites: Public Health 661 and 662.
Principles of global health. Challenges of urbanization and migration to include demographic; main causes of morbidity and mortality, including infectious agents; reproductive health; cultural diversity; and global preparedness.
P H 780. Global Health I (3)
Prerequisites: Public Health 601 and 602.
Global health to include trends and impacts of chronic physical and mental disease; infectious diseases of global importance; nutritional status and disease patterns; resource constrained environments, and design of international health organizations and systems.
P H 784. Global Environmental Health (3)
Environmental causes of morbidity and mortality worldwide and strategies to reduce incidence. Regional differences due to anthropogenic and natural occurring disease agents interacting with differential population susceptibility to disease. Measurement tools for environmental health research in less developed areas of the world.
P H 797. Research (1-3) Cr/NC/RP
Prerequisite: Consent of instructor.
Research in one of the fields of public health. Maximum credit six units applicable to a master's degree. Maximum combined credit six units of Public Health 797 and 798 applicable to a master's degree.

P H 798. Special Study (1-6) Cr/NC/RP
Prerequisite: Consent of staff, to be arranged with the director and instructor.
Individual study. Maximum credit six units applicable to a master's degree. Maximum combined credit six units of Public Health 797 and 798 applicable to a master's degree.

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

P H 799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP 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.

P H 799C. Comprehensive Examination Extension (0) Cr/NC
Prerequisite: Completion or concurrent enrollment in degree program courses.
Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.

**DOCTORAL COURSES**

P H 800. Seminar (1-9)
Prerequisite: Admission to the doctoral program.
Investigation of a particular topic or issue, emphasis on empirical research, topic to be announced in the Class Schedule. Maximum credit nine units applicable to a doctoral degree.

P H 823. Case-Control Studies (3)
Design, conduct, and analysis of case-control studies. Methodologic issues, control of biases and misclassification errors, proper use of interpretation of stratification and logistic regression in study of diseases of multifactorial etiology.

P H 824, Cohort Studies (3)
Design, analysis, and application of cohort studies. Cohort study designs, importance of time-varying exposures and outcomes, external and internal validity, and in-depth treatment of approaches to analysis based on cohort sampling methods.

P H 826. Analysis of Case-Control Studies (3)
Prerequisites: Public Health 623 and 627.
Use of conditional and unconditional logistic regression and approaches for incorporating confounding and interaction in models. Computer applications included.

P H 827. Analysis of Cohort Studies (3)
Prerequisites: Public Health 623 and 627.
Statistical models for analyzing cohort studies including general regression methodology, generalized linear models, generalized estimating equations, random effects models and survival analysis. Emphasis on conceptual understanding of these models, implementation with statistical software, and interpretation.

P H 850. Global Health Practicum (3)
Prerequisites: Public Health 781, 800, 880.
An international research activity, program evaluation, participation in a multinational organization internship, or field work with government or non-governmental organizations. This practicum is required for completion of the Ph.D. in global health under supervision of program directors.

P H 861. Behavioral Measurement (3)
Techniques for assessing behaviors related to health and health risks in key content areas. Multimodel assessment and validation procedures. Students will demonstrate ability to create new measures based on theory and reliability and validity of these measures, using multimodel assessment procedures.

P H 862. Advanced Theoretical Foundations of Health Behavior Research and Application (3)
Philosophy of science, role of theory development and design and conduct of research, with integration of behavioral and biological theories serving as foundation for behavioral science in public health.

P H 863. Advanced Communication Technology as Applied to Health Behavioral Interventions (3)
Prerequisites: Public Health 663, admission to the doctoral program, and consent of instructor.
Health communication theory and social marketing practice as applied to public health behavior change. Audience segmentation, formative research channel selection, and message development applied to chronic and infectious disease prevention.

P H 864. Advanced Research Methods (3)
Prerequisite: Admission to the Joint Doctoral Program in public health with a concentration in health behavior.
Research process and study design to include conceptualizing research questions and hypotheses, observational study designs, quasi-experimental and experimental study designs, and introduction to qualitative research and mixed methods.

P H 866. Global Issues in Health Behavior Research and Application (3)
Prerequisites: Admission to the doctoral program and consent of instructor.
Epidemics in infectious diseases, environmental degradation, population explosion, and other problems with behavioral links threaten the world's population. Global issues such as the role of behavior in disease, bioterrorism, and war.

P H 867. Seminar: Grantwriting for Health Behavior Researchers (3)
Prerequisite: Admission to Ph.D. in public health with a concentration in health behavior.
Skills needed to compete for health behavior research funding. Grant proposal writing, submission, review, and revision processes. Background information about grant review procedures and funding mechanisms, with emphasis on national institutes of health.

P H 880. Seminar: Program Planning and Evaluation in International Settings (3)
Prerequisite: Public Health 780.
Theory and skills to evaluate research and service programs in international settings to include methods in program planning and evaluation, distinctions between research and evaluation, special considerations in cross-cultural settings, and transadaptation of planning and evaluation materials.

P H 897. Doctoral Research (1-15) Cr/NC/RP
Prerequisite: Admission to the doctoral program.
Independent investigation in the general field of the dissertation.

P H 898. Doctoral Special Study (1-9) Cr/NC/RP
Prerequisite: Admission to the doctoral program.
Individual study in the field of specialization. Maximum credit nine units applicable to the doctoral degree.

P H 899. Doctoral Dissertation (1-15) Cr/NC/RP
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.
Regulatory Affairs
In the College of Sciences

OFFICE: Geology/Mathematics/Computer Science 619
TELEPHONE: 619-594-6030 / FAX: 619-594-6381
E-MAIL: regsci@mail.sdsu.edu
http://regsci.sdsu.edu

Graduate Adviser: Lorah W. Bodie, Ed.D.

General Information
Regulatory science programs focus on training students in areas related to development, manufacturing, and marketing of biopharmaceutical, pharmaceutical, and medical device products. Programs address research and workforce needs of companies as they make the transition from research and development to manufacturing and production, including the legal, ethical, and regulatory elements that both guide and restrict the industry.

The courses for the degree program are offered fully online through special sessions with enrollment through the College of Extended Studies. Since the degree program is self-supporting, the fee structure for courses is different than for courses in programs that are supported with state funding. For more information on degree program admissions, courses, requirements, and fees visit http://regsci.sdsu.edu.

The degree program provides a comprehensive background in regulatory science necessary for regulatory affairs professionals to competently address regulatory requirements associated with pharmaceutical, biopharmaceutical, and medical device products. Regulatory affairs courses focus on practical applications and approaches for compliance with development, testing, manufacturing and post-marketing surveillance laws and requirements enforced by the Food and Drug Administration (FDA) and international counterparts.

Upon successful completion of the degree program, students will have detailed knowledge and understanding of current regulations and their practical application to the development and commercialization of drug, biologic, and medical device products.

Master of Science Degree in Regulatory Affairs
(Offered through the College of Extended Studies)
The Master of Science degree in regulatory affairs is offered through the College of Sciences. The coursework in this curriculum is offered only in special sessions. Students in special session courses enroll through the College of Extended Studies and follow a fee structure that is different from that for regularly matriculated students. For more information, contact the regulatory affairs program adviser.

This degree program provides a comprehensive background in regulatory science with the additional training and experience required of regulatory affairs professionals to address federal, state, and international regulatory statutes and laws.

The degree offering focuses on laws and regulations imposed by regulatory agencies related to drug discovery, development, testing, and manufacture of products for commercial distribution. Also included are requirements for ongoing post-marketing surveillance. The degree program will provide students with detailed knowledge and understanding of current regulations and their practical application to the development and commercialization of drug, biologics, and medical device products.

Admission to Graduate Study
All students must satisfy the general admission and examination requirements for admission to the university with classified graduate standing, as described in Part Two of the Graduate Bulletin. In addition, the applicant must satisfy the following requirements before being considered for admission to classified graduate standing by the admissions review committee of the department.

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.

All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the Regulatory Affairs office.

Graduate Admissions
The following materials should be submitted as a complete package directly to:

Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;

NOTE:
• Students who attended SDSU need only submit transcripts for work completed since last attendance.
• Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

(2) GRE scores (http://www.ets.org SDSU institution code 4682);
(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

Regulatory Affairs
The following materials should be mailed or delivered to:

Master of Science in Regulatory Affairs
Director of Regulatory Affairs Programs
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-1010

(1) Two letters of recommendation sent from persons who are knowledgeable about the candidate’s potential for success in graduate study;
(2) Applicant essay that describes the applicant’s purpose in pursuing graduate studies in regulatory affairs and relationship to personal and career objectives;
(3) Curriculum vitae or resume listing employment or volunteer experience relevant to the proposed new degree major program;
(4) One set of official transcripts (in addition to those sent to Graduate Admissions).

Candidates for admission will typically come from one of the disciplines offered in the life and physical sciences and engineering. In some cases, candidates who have not fully met admissions requirements may be admitted with conditionally classified standing, subject to space availability, after consideration of those who meet the requirements for classified graduate standing. Students so admitted will be advised as to the conditions of their admittance and the time 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 Four of this bulletin.

Specific Requirements for the Master of Science Degree

(Major Code: 49045) (SIMS Code: 779901)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Four of this bulletin, the student must complete a graduate program consisting of a minimum of 39 units as follows:

1. Complete 30 units of required courses.
   - R A 601 Pharmaceutical, Biotechnology, and Medical Device Industries (3)
   - R A 602 Food and Drug Law (3)
   - R A 605 Medical/Scientific Writing for Life Science Professionals (3)
   - R A 750 Leadership for Change and Continuous Improvement (3)
   - R A 770 Current Good Manufacturing Practices – General Concepts (3)
   - R A 773 Medical Device Regulations (3)
   - R A 774 Investigational and Marketing Applications for Drugs and Biologics (3)
   - R A 775 Clinical Trials: Issues in Design, Conduct, and Evaluation (3)
   - R A 779 International Regulatory Affairs (3)
   - R A 781 Ethics for Life Science Professionals (3)
   - R A 783 Effective Communication for Life Science Professionals (3)

2. Complete six units of electives from the following courses.
   - R A 696 Advanced Topics in Regulatory Affairs (1-4)
   - R A 705 Project Planning for the Biomedical Industries (3)
   - R A 771 Current Good Manufacturing Practices – Advanced Topics (3)
   - R A 772 Post-Approval Activities (3)
   - R A 773 Medical Device Regulations (3)
   - R A 774 Investigational and Marketing Applications for Drugs and Biologics (3)
   - R A 776 Validation Aspects of Drugs, Biologics, and Device Product Development and Manufacturing, Including Computer Related Systems and Software (3)
   - R A 778 Quality Control and Quality Assurance: Pharmaceuticals, Biologics, and Medical Devices (3)
   - R A 797 Research (1-3) Cr/NC/RP
   - R A 798 Special Study (1-3) Cr/NC/RP

3. Complete three units of Regulatory Affairs 798, capstone project.

Advanced Certificate in Intellectual Property and Regulatory Affairs

(SIMS Code: 779903)

The Advanced Certificate in Intellectual Property and Regulatory Affairs is a joint certificate program designed for life science professionals who have no formal legal training and whose research or work responsibilities or ambition would benefit from knowledge of regulatory affairs and intellectual property law. Ideal candidates include working professionals with a minimum of two years of experience in the biotechnology, medical technology, or related life sciences industries, who will benefit from learning the fundamentals of intellectual property and regulatory law but who do not wish to become attorneys. The certificate program provides flexibility to design an individualized plan of study from designated course offerings from SDSU's College of Sciences and the University of San Diego (USD) School of Law to best enhance each candidate's professional development. Candidates will take courses at SDSU and the law school, designing individual plans from a broad list of existing courses. Regulatory Affairs courses in the advanced certificate may be applied to the Master of Science degree in regulatory affairs.

Admission Requirements

Applicants must have completed a bachelor's degree from an accredited institution in the United States or its equivalent from a foreign institution.

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.

All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the Regulatory Affairs office.

Graduate Admissions

The following materials should be submitted directly to:

Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

Official transcripts (in sealed envelopes) from all postsecondary institutions attended;

NOTE:
- Students who attended SDSU need only submit transcripts for work completed since last attendance.
- Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

Regulatory Affairs

The following materials should be mailed or delivered to:

Master of Science in Regulatory Affairs
Director of Regulatory Science Programs
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-1010

1. Official transcripts for all university and colleges attended (undergraduate and graduate);
2. Curriculum vitae or resume, demonstrating a minimum of two years of professional experience in the biotechnology, medical technology, or related life science industries;
3. Personal statement detailing the applicant's interest in and qualification for the program;
4. One or more letters of recommendation.

Specific Requirements

To receive the certificate, candidates must successfully complete the following courses (minimum of 13 credits/units) and earn a minimum grade point average of 3.0 or better.

- R A 602 Food and Drug Law (3)
- R A 781 Ethics for Healthcare Professionals (3)
- LWIP 535 (USD) Survey of Pharmaceutical Law & Policy (2)
- LWIP 570 (USD) Patent Law (3)

Elective(s) from approved list of courses offered at SDSU or USD School of Law (two units required).
Advanced Certificate in Regulatory Affairs  
(Offered through the College of Extended Studies)  
(SIMS Code: 779902)

The Advanced Certificate in Regulatory Affairs requires the completion of Regulatory Affairs 601, 602, 770, and 781. Regulatory Affairs 601 covers the various steps in the development process for pharmaceuticals, biologics, and medical devices, with an understanding of the regulatory impact on this process. Regulatory Affairs 602 provides a basic knowledge of the laws and regulations governing these industries. In Regulatory Affairs 770, students learn the basic concepts of good manufacturing practices. Regulatory Affairs 781 examines some of the most significant ethical issues confronting life science professionals. Courses in the Advanced Certificate in Regulatory Affairs may be applied to the Master of Science degree in regulatory affairs. To enroll in this certificate program, call 619-594-6030.

Courses Acceptable for Master's Degree Program in Regulatory Affairs (R A)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

GRADUATE COURSES

R A 600. Seminar (1-3)  
Prerequisite: Consent of graduate adviser.  
An intensive study in specific areas of regulatory affairs. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

R A 601. Pharmaceutical, Biotechnology, and Medical Device Industries (3)  
Introduction and foundational knowledge of biotechnology, medical device, and pharmaceutical industries. Commercialization-associated activities to include chemical synthesis, control, drug discovery, manufacturing, marketing, post-marketing surveillance, quality assurance, and regulatory affairs. Company organization and product development.

R A 602. Food and Drug Law (3)  
Prerequisite: Regulatory Affairs 601.  

R A 605. Medical/Scientific Writing for Life Science Professionals (3)  
Prerequisite: Consent of graduate adviser.  
Writing conducted during the development of a new biologic or drug. Effective writing of regulatory documents to include analyses of scientific literature for critical appraisal of drugs, informed consents, and reports of laboratory results.

R A 696. Advanced Topics in Regulatory Affairs (1-4)  
Prerequisite: Consent of graduate adviser.  
Selected topics in regulatory affairs. May be repeated with new content. See Class Schedule for specific content. Credit for 696 applicable to a master's degree with approval of the graduate adviser.

R A 705. Project Planning for the Biomedical Industries (3)  
Prerequisite: Graduate standing.  
Introduction to strategies for effective management, planning, and scheduling of regulatory affairs activities and related tasks associated with project development in biomedical industries.

R A 750. Leadership for Change and Continuous Improvement (3)  
Prerequisite: Graduate standing.  
Control and facilitation of change at a variety of levels within the biotechnology industry. Strategic improvements to increase competitive advantages. Process improvement concepts and methods, quality and statistical tools, and their applications to leadership, manufacturing, and production challenges.

R A 770. Current Good Manufacturing Practices - General Concepts (3)  
Prerequisite: Regulatory Affairs 602.  
Interpretation and application of current Good Manufacturing Practices (GMPs) to drug substance and drug product manufacture. Differentiation between full and appropriate GMPs required for clinical supplies production and commercial manufacturing. Variances between FDA and European Union requirements for the control and manufacture of pharmaceuticals. Aseptic regulatory inspections processing and preparation.

R A 771. Current Good Manufacturing Practices - Advanced Topics (3)  
Prerequisite: Regulatory Affairs 770.  
Expanded analysis of current Good Manufacturing Practice regulations to assure quality of marketed drug and biological products. Discussion and methods for inspection of manufacturing establishments.

R A 772. Post-Approval Activities (3)  
Prerequisite: Regulatory Affairs 602.  
FDA and FTC rules and regulations governing advertising, labeling, and promotion for biologics, generic, over-the-counter, and prescription drugs; and medical devices. Annual reporting requirements, changes to approved marketing applications, Good Manufacturing Practice inspections, post-marketing adverse reaction reporting, product recalls, and risk management.

R A 773. Medical Device Regulations (3)  
Prerequisite: Regulatory Affairs 602.  
Introduction to regulatory affairs requirements for the medical device industry through stages of product development. FDA medical device regulations, terminology, timelines, and actual steps followed by regulatory affairs professionals. Commercial, operational, and strategic aspects of the regulatory approval process for in vitro diagnostics (IVD) and medical devices. Marketing, regulatory intelligence, risk management, and strategic considerations. Maximum combined credit six units of Regulatory Affairs 773 and 774 applicable to a master's degree.

R A 774. Investigational and Marketing Applications for Drugs and Biologics (3)  
Prerequisite: Regulatory Affairs 602.  
Content, planning, requirements, and strategy for developing and preparing New and Drug Administration regulatory submissions to include biologics license applications (BLA), device premarket applications (PMA), device premarket notifications (510(k)), investigational device exemptions (IDE), investigational new drug applications (IND), new drug applications (NDA). Combination product submissions, future submission trends, and risk management. Maximum combined credit six units of Regulatory Affairs 773 and 774 applicable to a master's degree.

R A 775. Clinical Trials: Issues in Design, Conduct, and Evaluation (3)  
Prerequisite: Regulatory Affairs 602.  
Issues in conduct, design, and evaluation of clinical trials by biotechnology, medical device, and pharmaceutical companies for marketing approval of products being studied in human subjects. Macro view of clinical trials within corporate, legal, and regulatory environments. Key steps required to develop and execute a successful clinical development program.

R A 776. Validation Aspects of Drugs, Biologics, and Device Product Development and Manufacturing, Including Computer Related Systems and Software (3)  
Prerequisite: Regulatory Affairs 602.  
Validation in biotechnology, medical device, and pharmaceutical industries. Validation of computerized systems, equipment, facilities and critical utilities, laboratory instrumentation, and manufacturing processes. Regulatory requirements for validation, maintenance of validation programs, validation master plan, and writing effective validation protocols.

R A 778. Quality Control and Quality Assurance: Pharmaceuticals, Biologics, and Medical Devices (3)  
Prerequisite: Regulatory Affairs 602.  
Quality and compliance functions in biotechnology and pharmaceutical companies to include out-of-specification results, developing product specifications, and writing compliant process deviations. Good Laboratory Practices (GLPs). Graded approach for Active Pharmaceutical Ingredients (APIs) manufacturing, Biologics, drugs, and medical device regulations. Quality control (QC) role vs. quality assurance (QA) role. Current trends in industry.
R A 779. International Regulatory Affairs (3)
Prerequisite: Regulatory Affairs 602.
International medical device regulations to include those in the European Union and other key areas of the world that pertain to the development and commercialization of biologics, medical devices, and pharmaceuticals.

R A 781. Ethics for Life Science Professionals (3)
Prerequisite: Regulatory Affairs 602.
Ethical issues confronting regulatory affairs professionals. Development of capacities to apply, generalize, and translate principles and ideas to modern biomedical practice. Responsible conduct surrounding clinical trials, human subjects, informed consent, institutional animal care and use, institutional review boards, trial design, and whistle blowing.

R A 783. Effective Communication for Life Science Professionals (3)
Prerequisite: Regulatory Affairs 602.
Advanced interpersonal, oral, and written communication strategies for the regulatory affairs business environment. Audience analysis, barriers to communication, and cultural considerations. Communication types to include email communications, executive summaries, informational documentation, persuasive arguments, research-based proposals, and visuals for presentations.

R A 797. Research (1-3) Cr/NC/RP
Prerequisite: Consent of graduate adviser.
Research in the area of regulatory sciences. Maximum credit six units applicable to a master's degree.

R A 798. Special Study (1-3) Cr/NC/RP
Prerequisite: Consent of graduate adviser.
Individual study. Maximum credit six units applicable to a master's degree.

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

R A 799B. Thesis or Project Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade of RP.
Registration required in any semester or term following assignment of RP in Course 799A in which the student expects to use the facilities and resources of the university; also students must be registered in the course when the completed thesis or project is granted final approval.
Faculty
Risa Levitt Kohn, Ph.D., Professor of Religious Studies,
Chair of Department
Khaleel Mohammed, Ph.D., Professor of Religious Studies
Sthaneshwar Timalsina, Ph.D., Professor of Religious Studies
Delroi E. Whitaker, Jr., Ph.D., Assistant Professor of Religious Studies

General Information
The department offers advanced coursework in religious studies which may be used toward fulfilling advanced degree requirements in Interdisciplinary Studies and in other departments with the approval of the student's graduate adviser.

Courses (REL S)
Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

NOTE: Courses for Area (A) Texts; or Area (B) Traditions; or Area (C) Theories and Methods; or Area (D) Critical Issues in Religion, are identified in the course title as (A), (B), (C), or (D).

REL S 507. The Reformation (A) (B) (C) (D) (3)
(Same course as History 507)
Continental Europe, 1500-1648. Split of Christendom; political and intellectual dissent; social fabric of family life; relationship between gender, class, and power; cultural stratification of European society.

REL S 581. Major Theme (A) (B) (C) (D) (3)
Prerequisites: Three units of religious studies and upper division or graduate standing.
Advanced systematic study of a theme or motif selected from major religious traditions. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

REL S 582. Major Text (A) (B) (C) (D) (1-3)
Prerequisites: Three units of religious studies and upper division or graduate standing.
Advanced systematic study of a selected scripture or classic text(s) selected from one of the major religious traditions. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

REL S 583. Major Tradition (A) (B) (C) (D) (3)
Prerequisites: Three units of religious studies and upper division or graduate standing.
Advanced systematic study of the doctrines, practices, and development of a major religious tradition. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

REL S 596. Advanced Topics in Religious Studies (A) (B) (C) (D) (1-3)
Prerequisite: Consent of instructor.
Advanced selected topics in religious 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

GRADUATE COURSES

REL S 696. Seminar in Selected Topics (3)
Prerequisite: Twelve upper division units in religious studies.
Directed research in a major problem or movement in religious studies. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

REL S 798. Special Study (1-3) Cr/NC/RP
Prerequisites: Twelve upper division units in religious studies and consent of staff; to be arranged with department chair and instructor.
Individual study. Maximum credit six units applicable to a master's degree.
Rhettoric and Writing Studies
In the College of Arts and Letters

OFFICE: Storm Hall 141
TELEPHONE: 619-594-6515 / FAX: 619-594-6530

Faculty
Suzanne M. Bordelon, Ph.D., Professor of Rhetoric and Writing Studies, Chair of Department
Glen A. McClish, Ph.D., Professor of Rhetoric and Writing Studies (Graduate Adviser)
Cezar M. Ornatowski, Ph.D., Professor of Rhetoric and Writing Studies
Linn K. Bekins, Ph.D., Associate Professor of Rhetoric and Writing Studies
Richard B. Boyd, Ph.D., Associate Professor of Rhetoric and Writing Studies
Paul A. Minifie, Ph.D., Associate Professor of Rhetoric and Writing Studies
Kathryn Valentine, Ph.D. Associate Professor of Rhetoric and Writing Studies
Christopher Werry, Ph.D., Associate Professor of Rhetoric and Writing Studies, Lower Division Writing Director

Associateships
Graduate teaching associateships (GTA) in rhetoric and writing studies are available to a limited number of qualified graduate students. Teaching associates must have completed Rhetoric and Writing Studies 609. Rhetoric and Writing Studies 796A during the first semester of their associateship, and have the consent of the RWS GTA program director. Additional information is available on the Department of Rhetoric and Writing Studies website (http://rhetoric.sdsu.edu/employment/index.htm).

General Information
The Department of Rhetoric and Writing Studies, in the College of Arts and Letters, offers graduate study leading to the Master of Arts degree in rhetoric and writing studies. Rhetoric is a field of research, teaching, and theory concerned broadly with literacy and spoken, visual, and written discourse. It emphasizes the centrality of discourse (especially written discourse) to all disciplinary and cultural communities, knowledge formation, learning, and professional work. The Department of Rhetoric and Writing Studies to bring together rhetorical theory, history of rhetoric, composition studies, literacy, writing pedagogy, discourse theory, professional writing, and writing in the disciplines. Coursework provides a coherent platform for inquiry into the diverse ways in which literacy and writing are used in academic, professional, and cultural contexts.

The Master of Arts degree in rhetoric and writing studies is a 30-unit program that provides preparation for students wanting to pursue doctoral-level study in the area of rhetoric and writing studies or in related disciplines or for students who plan to terminate their studies at the M.A. level. In addition to the general program, the curriculum offers specializations in the teaching of writing and in professional writing.

The general program is a customizable path that prepares students for advanced study or a range of careers in writing-related fields. The specialization in the teaching of writing prepares students to teach writing in colleges and further the professional development of secondary school teachers. The specialization in professional writing prepares students for careers as professional writers in business, industry, public agencies, and government within the broader disciplinary context of rhetoric and writing studies, as well as to teach technical and professional writing at colleges or in specific training settings.

The program includes a teaching internship for students in the teaching of writing specialization and a technical writing internship for students in the technical and professional writing specialization and, where appropriate, special study based on work experience.

Admission to Graduate Study
Students will be admitted only in the fall semester. See Rhetoric and Writing Studies website for deadlines: http://rhetoric.sdsu.edu/graduate/how_to_apply.htm.

To be admitted into the program, students must satisfy the general requirements for admission to graduate study at the university with classified graduate standing, as described in Part Two of this bulletin. In addition applicants must have a GPA of at least 3.0 in the last 60 semester units (90 quarter units) attempted in their bachelor's degree studies. Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.

All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the Department of Rhetoric and Writing Studies.

Graduate Admissions
The following materials should be submitted as a complete package directly to:
Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;
NOTE:
• Students who attended SDSU need only submit transcripts for work completed since last attendance.
• Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

(2) GRE scores (http://www.ets.org SDSU institution code 4682);

(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

Department of Rhetoric and Writing Studies
The following admissions materials must be submitted electronically via DecisionDesk, http://gra.sdsu.edu/decisiondesk:
(1) Letter of application;
(2) Curriculum vitae or resume;
(3) A 750-1000 word statement of purpose;
(4) Writing sample (minimum 10 pages total, in one or separate documents);
(5) Three letters of recommendation.

Advancement to Candidacy
All students must satisfy the general requirements for advancement to candidacy, as stated in Part Four of this bulletin.
Rhetoric and Writing Studies

Specific Requirements for the Master of Arts Degree

(Major Code: 15013)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Four of this bulletin, a student must complete a program of study approved by the department's graduate adviser. The program must consist of at least 30 units, with at least 18 units of 600- and 700-level courses. All students must complete 15 units of core courses and 15 units specific to the general program or a specialization.

Core Courses

Required courses (15 units):
- RWS 600 Reading and Writing Rhetorically (3)
- RWS 601A History of Rhetoric I (3)
- RWS 602 Modern Rhetoric and Composition Studies (3)
- RWS 640 Research Methods in Rhetoric and Writing Studies (3)
- RWS 790 M. A. Examination Preparation (3) Cr/NC
  or
- RWS 799A Thesis or Project (3) Cr/NC/RP

General Program

(SIMS Code: 112201)

Electives (15 units)
Fifteen units of thematically focused electives selected with the approval of the Department of Rhetoric and Writing Studies graduate adviser.

Specialization in the Teaching of Writing

(SIMS Code: 112202)

Required courses (9 units):
- RWS 512 Writing Center Practice, Research, and Theory (3)
- RWS 609 Theory and Practice of Teaching Composition (3)
- RWS 796A Teaching Internship (3) Cr/NC
  or
- RWS 798 Special Study (based on work experience, where appropriate and with the approval of the Department of Rhetoric and Writing Studies graduate adviser) (3) Cr/NC/RP

Electives (6 units)
Six units of thematically focused electives selected with the approval of the Department of Rhetoric and Writing Studies graduate adviser.

Specialization in Professional Writing

(SIMS Code: 112203)

Required courses (9 units):
- RWS 504 Advanced Professional Writing (3)
- RWS 607 Writing Project Management (3)
- RWS 796B Writing Internship (3)
  or
- RWS 798 Special Study (3) Cr/NC/RP (Based on work experience, where appropriate and with the approval of the Department of Rhetoric and Writing Studies graduate adviser.)

Electives (6 units)
Six units of thematically focused electives selected with the approval of the Department of Rhetoric and Writing Studies graduate adviser.

Advanced Certificate in the Teaching of Writing

(SIMS Code: 112299)

Offered by the Department of Rhetoric and Writing Studies, the Advanced Certificate in the Teaching of Writing provides opportunities for teachers, scholars, and other professionals to expand their knowledge of rhetoric, expository texts, and composition instruction. Applicants to the program must have completed a bachelor's degree from an accredited institution.

Courses Acceptable for Master's Degree Program in Rhetoric and Writing Studies (RWS)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

RWS 500W. Advanced Writing Strategies (3)
Prerequisites: Satisfies Graduation Writing Assessment Requirement for students who have completed 60 units; completed Writing Placement Assessment with a score of 8 or higher (or earned a grade of C (2.0) or better in Rhetoric and Writing Studies 280, 281 [or Linguistics 281] if score on WPA was 6 or lower); and completed General Education requirements in Composition and Critical Thinking.

Proof of completion of prerequisites required: Test scores or verification of exemption; copy of transcript.

Advanced writing course focusing on how meaning is negotiated and claims are argued in academic and public discourse.

RWS 501. Editing (3)
Prerequisite: Graduate standing in Rhetoric and Writing Studies 200 [or English 200] or 250.


RWS 503W. Professional Writing (3)
Prerequisites: Satisfies Graduation Writing Assessment Requirement for students who have completed 60 units; completed Writing Placement Assessment with a score of 8 or higher (or earned a grade of C (2.0) or better in Rhetoric and Writing Studies 280, 281 [or Linguistics 281] if score on WPA was 6 or lower); and completed General Education requirements in Composition and Critical Thinking.

Proof of completion of prerequisites required: Test scores or verification of exemption; copy of transcript.

Principles and practices of professional writing, including clear and concise style and rhetorical strategies of designing effective workplace documents. Practice composing memos, reports, proposals.
RWS 504. Advanced Professional Writing (3)  
Prerequisite: Rhetoric and Writing Studies 500W, 503W, or graduate standing.  
Advanced principles in professional writing, including user and task analysis for interface design; document design and typography; collaboration and interpersonal communication; ethical and cultural issues; usability testing; and small group management.

RWS 506. Writing Internship (3) Cr/NC  
Prerequisites: Rhetoric and Writing Studies 500W or 503W. Admission to a minor, major, certificate, or graduate program in rhetoric and writing studies.  
Intensive experience in writing and editing documents while student is under the joint supervision of an academic instructor and a professional practitioner.

RWS 507. Professional Communication in Nonprofit Organizations (3)  
Prerequisites: Rhetoric and Writing Studies 200 or English 200 and 250. Upper division or graduate standing.  
Developing specific technical communication skills for nonprofit organizations. Learning nonprofit documentation: proposals, mission statements, advertising, member surveys, capital campaigns. Promoting volunteerism. Interacting with nonprofit boards. Adhering to requisite state and federal regulations.

RWS 508W. Scientific Writing (3)  
Prerequisites: Satisfies Graduation Writing Assessment Requirement for students who have completed 60 units; completed Writing Placement Assessment with a score of 8 or higher (or earned a grade of C (2.0) or better in Rhetoric and Writing Studies 280, 281 [or Linguistics 281] if score on WPA was 6 or lower); and completed General Education requirements in Composition and Critical Thinking. Admission to a minor, major, certificate, or graduate program in rhetoric and writing studies.  
Proof of completion of prerequisites required: Test scores or verification of exemption; copy of transcript.

Scientific writing in academic and empirical research settings to include clear and concise writing style, rhetorical strategies, and writing of research reports, proposals, conference presentations, and articles.

RWS 509. Teaching Composition in Secondary Schools (3)  
Prerequisite: Rhetoric and Writing Studies 200 or English 200 or graduate standing.  
Theory and practice of teaching and assessing composition in secondary schools and comparable contexts.

RWS 510. Rhetoric and Culture (3)  
Interplay of rhetoric, writing, and culture, including race/ethnicity, gender, class, and other cultural considerations. Role of texts in shaping and shifting community knowledge, identity, norms, and values.

RWS 512. Writing Center Practice, Research, and Theory (3)  
Prerequisite: Rhetoric and Writing Studies 200 or English 200 with a grade of C (2.0) or better or satisfaction of Graduation Writing Assessment Requirement.  
Practice, research, and theory of coaching writing in various settings. Individual and small group writing projects and research. Maximum credit six units.

RWS 596. Special Topics in Rhetoric and Writing Studies (1-3)  
Prerequisite: Consent of instructor.  
Selected topics in rhetoric and writing studies. May be repeated with new content and consent 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

RWS 599. Special Study (1-3) Cr/NC  
Directed individual study. Maximum credit six units.

GRADUATE COURSES

RWS 600. Reading and Writing Rhetorically (3)  
Theoretical frameworks, including rhetorical theory and discourse analysis, for analyzing and interpreting academic, professional, and everyday texts. Critical reading and writing of texts and rhetorical dimensions of knowledge production.

RWS 601A. History of Rhetoric I (3)  
Prerequisite: Good standing in an approved graduate program. Major works of rhetoric from Greek Sophists through Imperial Rome. Themes and core concepts that shape the discipline of rhetoric. How the works informed pedagogy and public life. Relationship of historical texts to contemporary rhetorical practices.

RWS 602. Modern Rhetoric and Composition Studies (3)  
Twentieth century rhetoric and composition theory, and their relationship to study and teaching of written discourse.

RWS 607. Writing Project Management (3)  
Prerequisite: Rhetoric and Writing Studies 504. Managing technical documentation projects. Collaborative writing. Managing writing teams. Conducting task analysis, estimating cost and schedule, preparing document plans, gathering information, testing documents, and managing project documentation. (Formerly numbered Rhetoric and Writing Studies 505.)

RWS 609. Theory and Practice of Teaching Composition (3)  
Research and theory in field of teaching composition. Links research to classroom practice. Prepares students to teach composition at SDSU and other post-secondary settings. Prerequisite for teaching associate professorships in Rhetoric and Writing Studies.

RWS 640. Research Methods in Rhetoric and Writing Studies (3)  
Prerequisites: Rhetoric and Writing Studies 600, 601A, 602. Research methods and critical approaches to advanced study of rhetoric and writing, with attention to basic reference works, scholarly journals, and bibliographical techniques.

RWS 696. Topics in Rhetoric and Writing Studies (1-3)  
Intensive study in specific areas of rhetoric and writing studies. May be repeated with new content and consent of instructor. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

RWS 730. Gender and Rhetoric (3)  
Prerequisites: Rhetoric and Writing Studies 600 and 601A. Explores intersection of gender, rhetoric, and power. Topics include rhetoric and the body, gendered differences in rhetorical styles, roles gender plays in professional relationships, culture, and the media. Interrogation of gender as an analytical category.

RWS 744. Seminar in Issues in Rhetorical Theory and Practice (3)  
Prerequisites: Rhetoric and Writing Studies 600, 601A, 602. Problems in 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.

RWS 790. M.A. Examination Preparation (3) Cr/NC  
Prerequisites: Twenty-four units of graduate coursework that counts toward the M.A. degree in rhetoric and writing studies. Student must be in final semester of study for master's degree. Survey of selected essays, articles, and texts in rhetoric, composition studies, and professional and technical writing included in the M.A. examination. Emphasis on rhetorical analysis of texts and contexts (historical, social, professional, and technical). Strongly recommended for students taking the M.A. examination.

RWS 796A. Teaching Internship (3) Cr/NC  
Prerequisites: Completion of Rhetoric and Writing Studies 609 and consent of graduate adviser. Teaching experience while student is under joint supervision of college-level teacher and academic instructor. Maximum credit three units.

RWS 796B. Writing Internship (3) Cr/NC  
Prerequisites: Rhetoric and Writing Studies 501, 504, 600, 601A, 602, and consent of graduate director. Intensive experience in writing and editing documents while student is under joint supervision of an academic instructor and a professional coordinator. Maximum credit three units applicable to a master's degree.

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

In the Department of European Studies
In the College of Arts and Letters

Chair of Department: Anne Donadey, Ph.D.

Faculty
Veronica Shapovalov, Ph.D., Professor of Russian

General Information
The Department of European Studies offers coursework in Russian which may be used toward fulfilling advanced degree requirements in Interdisciplinary Studies and other departments with the approval of the student’s graduate adviser.

Courses (RUSSN)
Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES
All upper division courses in Russian are taught in Russian unless otherwise stated.

RUSSN 501. Translation (3)
Prerequisite: Russian 301.
Comparison of Russian and English through translation of a variety of texts from Russian to English and from English to Russian.

RUSSN 570. Issues in Russian Literary and Cultural Studies (3)
Prerequisites: Russian 301 and 305A or 305B.
Themes within literary, intellectual, and cultural movements in Russian literature of the nineteenth to twenty-first centuries. May be repeated with new title and content. See Class Schedule for specific content. Maximum credit six units.

RUSSN 596. Topics in Russian Studies (3)
Prerequisite: Russian 305B (for literary topics). Proof of completion of prerequisite required: Copy of transcript.
Topics in Russian 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

GRADUATE COURSES

RUSSN 696. Topics in Russian Studies (3)
Intensive study in specific areas of Russian. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

RUSSN 798. Special Study (1-3) Cr/NC/RP
Prerequisites: Eighteen upper division units in Russian and consent of staff; to be arranged with department chair and instructor. Individual study. Maximum credit six units applicable to a master’s degree.
Section I. Master's Degree Programs

Master of Social Work Degree

General Information

The School of Social Work offers a 38-60 unit accredited graduate program leading to a Master of Social Work (MSW) degree. Coursework is typically completed in one to four years. The program qualifies students to apply for the Licensed Clinical Social Worker (LCSW) certification process by the Board of Behavioral Science Examiners of the State of California. The School of Social Work provides an ongoing assessment of learning outcomes for its program at http://socialwork.sdsu.edu/degrees-programs/outcomes-assessment.

Students may earn the Master of Social Work degree in one of two ways described below. Students who have earned an undergraduate social work degree from an accredited university may be eligible to complete the requirements for the Master of Social Work degree via the 38 unit advanced standing program. All other students are required to complete the standard 60 units Master of Social Work program.

The Master of Social Work degree prepares advanced practitioners in specialized areas of direct practice or administration/commuity development. Students will be well-grounded in the values and ethics of the profession; have multiple competencies that can be used in a wide variety of settings, with systems of various sizes and with diverse and vulnerable populations; able to critically examine issues of economic, environmental, and social justice and committed to the realization of human rights; utilize research evidence in practice decision making; committed to lifelong professional development; and prepared to be leaders in the profession. Special emphasis is currently given to those human needs that relate to the continuum of health care and well-being, families in transition, and social/environmental factors that create stress as it relates to individuals and groups in the home, workplace, and community.

The school is extensively involved in local, state, and national human service issues through individual faculty research and community intervention programs. In addition, the school has made commitments in the area of chemical dependency research and practice through the Center for Alcohol and Other Drug Studies and policy research and intervention through the Social Policy Institute.

OFFICE: Hepner Hall 119
TELEPHONE: (619) 594-6865

Accredited by the Council on Social Work Education.

Faculty

Melinda M. Hohman, Ph.D., Professor of Social Work, Director of School
Jong Won Min, Ph.D., Professor of Social Work, Associate Director of School
David W. Engstrom, Ph.D., Professor of Social Work
Mario D. Garrett, Ph.D., Professor of Social Work
Loring P. Jones, D.S.W., Professor of Social Work
Sally G. Mathiesen, Ph.D., Professor of Social Work
Thomas R. Packard, D.S.W., Professor of Social Work, Emeritus
Mark B. Reed, Ph.D., Professor of Social Work
Susan I. Woodruff, Ph.D., Professor of Social Work
Maria L. Zuniga, Ph.D., Professor of Social Work
Daniel J. Finnegan, Ph.D., Associate Professor of Social Work, Emeritus
Eunjeong Ko, Ph.D., Associate Professor of Social Work (Graduate Adviser)
Lucinda A. Rasmussen, Ph.D., Associate Professor of Social Work
Yawan Li, Ph.D, Assistant Professor of Social Work
Ijeoma Nwabuzor Ogbonnaya, Ph.D., Assistant Professor of Social Work
Margarita Villagran, Ph.D., Assistant Professor of Social Work

Admission to Graduate Study

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.

All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the School of Social Work.

Graduate Admissions

The following materials should be submitted as a complete package directly to:

Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes or electronically) from all postsecondary institutions attended;

NOTE:
- Students who attended SDSU need only submit transcripts for work completed since last attendance.
- Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

(2) GRE scores (http://www.ets.org SDSU institution code 4682);

(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

Master of Social Work Degree

The following admissions materials must be submitted electronically via DecisionDesk, http://gra.sdsu.edu/decisiondesk/:

(1) Department application;
(2) Letters of recommendation;
(3) Personal statement.

Master of Social Work Degree and Juris Doctor Degree

The following admissions materials must be submitted electronically via DecisionDesk, http://gra.sdsu.edu/decisiondesk/:

(1) Department application;
(2) Letters of recommendation;
(3) Personal statement;
(4) Contact the Office of Admissions at California Western School of Law at 619-525-1463 for a separate application.

Master of Social Work Degree and Master of Public Health Degree

The following admissions materials must be submitted electronically via DecisionDesk, http://gra.sdsu.edu/decisiondesk/:

(1) Department application;
(2) Personal statement;
(3) Three letters of recommendation.

Students must also complete the SOPHAS application found on the public health website at https://publichealth.sdsu.edu/programs/mph/admissions-mph-ms. Applications for the concurrent program are reviewed by the Graduate School of Public Health and School of Social Work.

In the College of Health and Human Services
Admission to the Degree Curriculum

General Admission Requirements

All applicants must file two separate applications: one to the Office of Enrollment Services to include transcripts, GRE scores, and English language scores if applicable, and one to the School of Social Work. The School of Social Work will not consider any applicant who has not filed both required applications. Specific University admission requirements and procedures are outlined in Part Two of this bulletin. Specific School of Social Work requirements and procedures are outlined in the admissions packet as well as on the School of Social Work website at http://socialwork.sdsu.edu.

Please be advised that the school does not accept life/work experience in lieu of any course requirements. The school does not accept transfer credit based on life/work experience. Students will have to retake any courses for which life/work experience was counted.

In addition to the regular application material, the University requires all applicants to take the Graduate Record Examination for admission. Scores must be reported to both the university and the School of Social Work. Applicants will not be reviewed by the school unless GRE scores are on file. Applicants must have taken and successfully passed one course in statistics and a liberal arts foundation at the undergraduate or graduate level.

The school cannot accept any student into the program until the University has accepted them into graduate study. For this reason, we urge interested students to submit both applications as early as possible.

Advanced Standing Program Admission Requirements

The School of Social Work admits new students to the advanced standing program only in the summer each academic year. Application deadlines are posted on the School of Social Work website at http://socialwork.sdsu.edu.

Students admitted to the advanced standing program must possess an undergraduate degree in social work that was earned within five years of admission to the advanced standing program. The undergraduate degree must come from a program that is accredited by the Council on Social Work Education and the cumulative GPA for social work courses taken must be at least 3.0 (B or better).

Students not admitted to the advanced standing program may be considered for admission to the standard 60 unit program.

Standard 60 Unit Master of Social Work Admission Requirements

The School of Social Work admits new students to the standard 60 unit Master of Social Work program only in the fall of each academic year. Application deadlines are posted on the School of Social Work website at http://socialwork.sdsu.edu. Students currently enrolled or on leave of absence from CSWE accredited schools of social work are considered transfer students and can apply to the program for either fall or spring admission.

Advancement to Candidacy

Advanced Standing Program

All students must meet the general requirements for advancement to candidacy as described in Part Four of this bulletin. In addition, the student must (1) have satisfactorily completed the six unit foundation bridge courses (SWORK 670 and 671) with a minimum grade of B; (2) have earned at least 15 units of post-baccalaureate study with a minimum grade point average of 3.0 (B) and received a grade of satisfactory progress (SP) or credit (Cr) in four units of SWORK 750 or 755; (3) have no incomplete grades; (4) be recommended by the faculty of the School of Social Work; (5) be approved for advancement by the Division of Graduate Affairs.

Standard 60 Unit Master of Social Work Program

All students must meet the general requirements for advancement to candidacy as described in Part Four of this bulletin. In addition, the student must (1) have earned at least 28 units of post-baccalaureate study with a minimum grade point average of 3.0 (B) and received credit (Cr) in field practicum; (2) have no incomplete grades; (3) be recommended by the faculty of the School of Social Work; (4) be approved for advancement by the Division of Graduate Affairs; (5) successfully pass a written qualifying examination given during the spring semester in which the student completes 31 units of 600-level coursework.

Specific Requirements for the Master of Social Work Degree

(Major Code: 21041) (SIMS Code: 558201)

Advanced Standing Program

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master’s degree in Part Four of this bulletin, the student must complete an officially approved 38 unit course of study to include:

1. Six units in generalist/foundation bridge courses (SWORK 670 and 671);
2. Three units of computer applications for social work (SWORK 610);
3. 29 units of advanced study, to include:
   a. 3 units of advanced social policy (SWORK 702);
   b. 0-3 units of advanced human behavior (SWORK 720);
   c. 3 units of advanced research methods (SWORK 791 or 797);
   d. 6-9 units of social work electives (SWORK 758, 780, 781, 798, 799A);
   e. 14 units from one of the following social work methods focus areas (Administration and Community Development or Direct Practice).

Administration and Community Development

(Major Code: 21041) (SIMS Code: 558210)

SWORK 720 Seminar in Selected Topics in Human Behavior and Social Environment: Civic Engagement and Society Environments (3)
SWORK 740/GE 740 Community Development in Social Work and Gerontology (3)
SWORK 755 Advanced Field Practicum: Social Work Administration and Community Development (4) Cr/NC/RP (Taken twice)

Direct Practice

(Major Code: 21041) (SIMS Code: 558207)

SWORK 739 Advanced Seminar in Social Work Practice with Families (3)
SWORK 744 Advanced Seminar in Selected Topics in Direct Practice Social Work (3)
SWORK 750 Advanced Field Practicum: Direct Practice Social Work (4) Cr/NC/RP (Taken twice)

In addition to the above courses, students must complete either a Thesis (Plan A) or a comprehensive written examination (Plan B). Students completing Plan A may count Social Work 799A as three units of elective.

At least 30 units of the program must be completed in residence at San Diego State University. A maximum of six units is transferable from another accredited graduate program in social work.

Six units of elective credit may be taken from other schools or departments within the university with the consent of the graduate adviser. See student handbook for specific elective policies. To receive the degree, students must earn a 3.0 (B) grade point average in academic courses and demonstrate professional competence for required practicum (Cr for all semesters).
In addition, the National Association of Social Workers (NASW) Code of Ethics represents the professional standards of the MSW program. The NASW Code of Ethics is available in the student handbook. All students are expected to know and adhere to its principles of professional conduct. Students who knowingly or unknowingly violate any part of the ethical code may be dismissed from the program without further qualification regardless of coursework, research, or other academic achievement.

**Standard 60 Unit Master of Social Work Program**

or 63 Unit Master of Social Work Program with Early Childhood Transdisciplinary Education and Mental Health (EC-TEaMH) Certificate

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree in Part Four of this bulletin, the student must complete an officially approved 60 unit course of study (63 units for EC-TEaMH focus) to include:

1. 28 units in generalist/foundation bridge courses (SWORK 601, 619, 620A, 630, 631, 632, 650, 690 [or GERo 690]);
2. Three units of computer applications for social work (SWORK 610);
3. 29 units of advanced study (or 32 units for EC-TEaMH focus), to include:
   a. 3 units of advanced social policy (SWORK 702);
   b. 0-6 units of advanced human behavior (SWORK 720); or (CFD 670 and 671 for EC-TEaMH focus);
   c. 3 units of advanced research methods (SWORK 791 or 797);
   d. 6-9 units of social work electives (SWORK 758, 780, 781, 798, 799A), or (CSP 623 and SPED 676 for EC-TEaMH focus);
   e. 14 units from one of the following social work methods focus areas (Administration and Community Development or Direct Practice or Direct Practice/EC-TEaMH):

   **Administration and Community Development**
   (Major Code: 21041) (SIMS Code: 558211)

   SWORK 720 Seminar in Selected Topics in Human Behavior and Social Environment: Civic Engagement and Society Environments (3)

   SWORK 740/GERO 740
   Advanced Seminar in Administration and Community Development in Social Work and Gerontology (3)

   SWORK 755 Advanced Field Practicum: Social Work Administration and Community Development (4) Cr/NC/RP (Taken twice)

   **Direct Practice**
   (Major Code: 21041) (SIMS Code: 558205)

   SWORK 739 Advanced Seminar in Social Work Practice with Families (3)

   SWORK 744 Advanced Seminar in Selected Topics in Direct Practice Social Work (3)

   SWORK 750 Advanced Field Practicum: Direct Practice Social Work (4) Cr/NC/RP (Taken twice)

   **Direct Practice/EC-TEaMH**
   (Major Code: 21041) (SIMS Code: 558212)

   SWORK 739 Advanced Seminar in Social Work Practice with Families (3)

   SWORK 744 Advanced Seminar in Selected Topics in Direct Practice Social Work (3)

   SWORK 798 Special Study (2) Cr/NC/RP

   CFD 697 Advanced Field Experiences (6) Cr/NC

In addition to the above courses, students must complete either a Thesis (Plan A) or a comprehensive written examination (Plan B). Students completing Plan A may count Social Work 799A as three units of elective.

At least 30 units of the program must be completed in residence at San Diego State University. A maximum of 30 units is transferable from another accredited graduate program in social work.

Ten units of elective credit may be taken from other schools or departments within the university with the consent of the graduate adviser. See student handbook for specific elective policies. To receive the degree, students must earn a 3.0 (B) grade point average in academic courses and demonstrate professional competence for required practicum (Cr for all semesters).

In addition, the National Association of Social Workers (NASW) Code of Ethics represents the professional standards of the MSW program. The NASW Code of Ethics is available in the student handbook. All students are expected to know and adhere to its principles of professional conduct. Students who knowingly or unknowingly violate any part of the ethical code may be dismissed from the program without further qualification regardless of coursework, research, or other academic achievement.

**Student Handbook**

The School of Social Work has a student handbook for graduate students containing policies and procedures not specified in this bulletin in addition to information to aid students in completing the MSW degree program. Students are responsible for the handbook on the Social Work homepage http://socialwork.sdsu.edu.

**Program of Study**

**Advanced Standing Program**

The first nine units of the advanced standing program taken during the summer semester are organized around the generalist/foundation of social work practice. The final 29 units commencing in the fall are organized around a methods focus area. Students will select one of the methods focus areas.

**Standard 60 Unit Master of Social Work Program**

or 63 Unit Master of Social Work Program with Early Childhood Transdisciplinary Education and Mental Health (EC-TEaMH) Certificate

The standard 60 unit Master of Social Work program or 63 unit Master of Social Work program with Early Childhood Transdisciplinary Education and Mental Health (EC-TEaMH) certificate is organized in the first year around the generalist/foundation courses. The second year program is organized around a methods focus area. Students will select one of the methods focus areas described below during the semester before beginning the second year of the program.

**Methods Focus Areas**

**Direct Practice Social Work**

Focus is on interpersonal relationships and social functioning with emphasis on appropriate intervention methods used primarily with individuals, families, and groups. Emphasis is placed on a problem-solving framework that utilizes assessment/diagnosis, intervention/treatment and evaluative skills.

**Social Work Administration and Community Development**

Focus is on designing and managing human service organizations, engaging communities, forming partnerships, building institutional relationships, and enhancing social capital. Areas of emphasis include Administration (financial management, information systems, leadership, organizational change, supervision) or Community Development (community organizing, neighborhood improvement and problem solving, international social work, immigration issues). Electives must be approved by the adviser.

**Direct Practice Social Work/Early Childhood Transdisciplinary Education and Mental Health (EC-TEaMH) Certificate**

This focus area prepares MSW students to work with young children (ages 0-5) in the mental health field. In addition to the MSW, this focus area meets the requirements of the EC-TEaMH certificate that models the California Infant and Early Childhood Mental Health Training Guidelines and Personnel Competencies. Like the Direct Practice focus, emphasis is placed on a problem-solving framework that utilizes assessment/diagnosis, intervention/treatment, and evaluative skills.
Field of Service

In addition to the methods focus of the program of study, the curriculum provides students the opportunity to develop knowledge and skills in a specialized field of service while meeting their advanced human behavior, advanced social policy, advanced field practicum, and elective requirements. Students, with guidance from the graduate adviser and a faculty member serving as a professional mentor, select coursework that addresses their specific educational and career goals. Based on the current strengths of the school’s faculty, students can use their coursework and their field practicum to develop specialized knowledge in the areas of child welfare, family services, mental health, aging, substance abuse, and health. In addition, students may use thesis research to extend their knowledge in one of these areas.

Master of Social Work Degree and Juris Doctor Degree

General Information

The School of Social Work and the California Western School of Law offer a four-year concurrent graduate program which allows students to earn simultaneously a Master of Social Work and a Juris Doctor (JD) degree in law. The objective of the concurrent degrees program is to prepare students who are competent in advanced practice where social work and law converge.

Admission to the Degree Curriculum

To request application materials for the concurrent dual degrees program in social work and law, applicants should contact the Office of Admissions at the School of Social Work, San Diego State University, and the Office of Admissions at California Western School of Law. Two separate application processes must be followed. Please see the Admission to Graduate Study section in this bulletin under the Master of Social Work degree program. (The only difference is that students earning the two degrees simultaneously may substitute the results of the LSAT examination for the GRE examination.) Applicants should indicate on the appropriate section of each application that they are applying for the concurrent dual degrees MSW/JD program.

Advancement to Candidacy

All students must meet the general requirements for advancement to candidacy as described in Part Four of this bulletin. In addition, students must also meet all criteria outlined under the Advancement to Candidacy section for the Master of Social Work program.

Specific Requirements for the MSW/JD Concurrent Degree Program

(Major Code: 21041) (SIMS Code: 558208)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master’s degree as described in Part Four of this bulletin and all the requirements listed in the California Western School of Law catalog for the JD degree, the student must complete an officially approved course of study as outlined below.

School of Social Work

(60 Units–Including six units transferred from California Western School of Law)

1. Twenty-eight units in generalist/foundation courses (SWORK 601, 619, 620A, 630, 631, 632, 650, 690 [or GERO 690]);
2. Twenty-nine units of advanced study, to include:
   a. Three units of advanced social policy (SWORK 702);
   b. Zero to three units of advanced human behavior (SWORK 720);
   c. Three units of advanced research methods (SWORK 797);
   d. Six to nine units of social work electives (SWORK 745, 755, 768, 780, 781, 798, 799A);
   e. Six units of electives transferred from California Western School of Law courses;
   f. Fourteen units from one of the following social work methods focus areas (Administration and Community Development or Direct Practice);

Administration and Community Development

(Major Code: 21041) (SIMS Code: 558209)

SWORK 720 Seminar in Selected Topics in Human Behavior and Social Environment: Civic Engagement and Society Environments (3)
SWORK 740/ GER 740 Advanced Seminar in Administration and Community Development in Social Work and Gerontology (3)
SWORK 755 Advanced Field Practicum: Social Work Administration and Community Development (4) Cr/NC/RP (taken twice)

Direct Practice

(Major Code: 21041) (SIMS Code: 558208)

SWORK 739 Advanced Seminar in Social Work Practice with Families (3)
SWORK 744 Advanced Seminar in Selected Topics in Direct Practice Social Work (3)
SWORK 750 Advanced Field Practicum: Direct Practice Social Work (4) Cr/NC/RP (taken twice)

In addition to the above courses, students must complete either a thesis (Plan A) or a comprehensive written examination (Plan B). Students completing Plan A may count Social Work 799A as three units of electives.

California Western School of Law

(89 Units–Including 12 units transferred from the School of Social Work)

Civil Procedures I and II (6)
Contracts I and II (6)
Criminal Law I (3)
Property I and II (4)
Property I and II (6)
Torts I and II (6)
Constitutional Law II (3)
Criminal Procedure I (3)
Evidence (4)
Professional Responsibility (2)
Interdisciplinary Program for Child Abuse and Neglect (6)
Independent Study (3)
Internship (5)
Electives: 32 units (includes 12 units from SDSU)

The specific sequence of courses over the four year period is listed in the admissions material. Students attend the schools in the following pattern:
Year 1 California Western School of Law only
Year 2 San Diego State University School of Social Work only
Year 3 (Fall) Both Schools
Year 3 (Spring) California Western School of Law only
Year 4 Both Schools

Master of Social Work Degree and Master of Public Health Degree

General Information

The School of Social Work and the Graduate School of Public Health offer a three year concurrent graduate program leading to a Master of Social Work and a Master of Public Health. The objective of the concurrent program is to offer preparation in the fields of public health and social work. Students in this concurrent program must select the social work administration methods focus area.

Admission to the Degree Curriculum

Applicants should refer to the admission to master’s and doctoral study section for application instructions. In order to be considered for the concurrent MSW/MPH program, applicants must meet the general requirements for admission to graduate study at the university (see Part Four of this bulletin).

Applicants must have a minimum 2.55 grade point average in the last 60 semester or 90 quarter units in undergraduate work completed. Undergraduate preparation in at least one of the following areas is preferred: social work, social or behavioral sciences, or health science. Applicants must have a satisfactory score on the GRE General Test.
Applicants already holding another master's degree or higher degree from an accredited accredited graduate school are exempt from the GRE (see Part Four of this bulletin). A committee composed of faculty from Social Work and Public Health will make all admission recommendations to the dean of the Division of Graduate Affairs.

Advancement to Candidacy

All students must meet the general requirements for advancement to candidacy as described in Part Four of this bulletin. All core courses in public health and social work must be completed prior to advancement. In addition, the student must: (1) have earned at least 24 units of graduate study within the concurrent program with a minimum grade point average of 3.0 and no grade less than a B– in each core course: (2) have been recommended for advancement by the combined faculty advisory committee: received credit (Cr) in field practicum; (3) have a thesis proposal approved by the combined faculty advisory committee.

Upon advancement to candidacy, the student will enroll in Social Work 799A (Thesis) or Public Health 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 MSW and MPH degrees.

Specific Requirements for the MSW/MPH Degree

(Major Code: 12991) (SIMS Code: 998221)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as described in Part Four of this bulletin, the student must complete an officially approved course of study of not less than 93 units as outlined below.

Social Work/Public Health-Health Management and Policy (SIMS Code: 998221)

SWORK 601 Seminar in Social Welfare Policy and Services (3)
SWORK 619 Human Behavior in the Social Environment (3)
SWORK 620A Seminar in Human Behavior and Social Environment: Direct Practice (3)
SWORK 630 Social Work Practice: A Generalist Perspective (3)
SWORK 631 Social Work Practice: Individuals, Families, and Groups (3)
SWORK 632 Social Work and Gerontology: Organizations and Communities (3)
SWORK 650* Field Practicum (7) Cr/NC
SWORK 690/ Seminar in Research Methods for Social Work and Gerontology (3)
SWORK 720 Seminar in Selected Topics in Human Behavior and Social Environment (3)
SWORK 740/ Advanced Seminar in Administration and Community Development in Social Work and Gerontology (3)
SWORK 755* Advanced Field Practicum: Social Work Administration and Community Development (8) Cr/NC/RP
SWORK 797 Research (3) Cr/NC/RP
P H 601 Epidemiology (3)
P H 602 Biostatistics (3)
P H 604 Environmental Determinants of Human Health (3)
P H 641 Introduction to Health Services (3)
P H 644A Health Services Organization Management (3)
P H 644B Managing High-Performing Health Care Organization (3)
P H 645 Health Economics (3)
P H 647 Quantitative Methods and Health Data Analysis (3)
P H 648 Health Policy (3)
P H 742A Health Services Financial Management (3)
P H 742B Health Insurance and Financing Systems (3)
P H 747 Quality Improvement and Program Evaluation (3)
P H 748 Health Services Competitive Strategy and Marketing (3)
P H 797 Research (3) Cr/NC/RP
P H 799A or Thesis (3) Cr/NC/RP
SWORK 799A Thesis (3) Cr/NC/RP

Electives: Three units of social work electives - recommended:
SWORK 745 Advanced Seminar in Selected Topics in Social Work Administration (3)

Transfer units will not be accepted toward the concurrent MSW/MPH degree program. Graduate study or degrees obtained previously will not be accepted toward meeting the unit requirements of the concurrent MSW/MPH degree program. A student, after entering the concurrent MSW/MPH program, returns to a single degree program, all of the requirements for the single degree program must then be met.

* Social Work 650 and 755 must have the approval of the faculty advisory committee. Responsibility for faculty field supervision will be assigned in social work.

Section II.
Doctoral Program

http://socialwork.sdsu.edu/degrees-programs/graduate-programs/phd-substance-use-studies

Doctor of Philosophy Degree in Interdisciplinary Research on Substance Use

General Information

The School of Social Work at San Diego State University and the Division of Global Public Health at the University of California, San Diego, offer a joint doctoral program in interdisciplinary research on substance use. This program is designed to prepare the next generation of leaders in substance use research with the knowledge and skills to advance evidence-based and applied substance use interventions, policies, and programs.

The program focuses on interdisciplinary approaches to address the use and misuse of substances and the social and health consequences of such use and related policies. Interdisciplinary training opportunities draw from a variety of disciplines including anthropology, economics, global health, Latin American studies, neuroscience, pharmacology, political science, public health, and social work. The program will include a prevention research orientation focusing on the development and evaluation of disease prevention and health promotion recommendations and public health policies and programs. A harm reduction research perspective is also emphasized to reduce negative consequences associated with drug use and co-occurring disorders. Students acquire advanced skills and knowledge in these areas, building on a solid foundation of current and emerging theory, research methods, and analytic approaches related to scientific and cultural understanding of substance use and related problems. Using a socio-ecological perspective, students will gain a critical understanding of the etiology and epidemiology of substance use, and its related problems, as well as the effectiveness of interventions, policies, and programs designed to ameliorate such problems. Graduates of the program will be prepared to take leadership roles in areas such as academics, clinical practice, governmental and non-governmental agencies, policy, and research.

Admission to the Degree Curriculum

Applicants must hold a master's degree from an accredited (U.S. or equivalent) college or university from a related social/behavioral science or professional program (e.g., social work, public health, psychology, sociology, anthropology, economics). It is expected that applicants will have minimum grade point averages of 3.2 (undergraduate) and 3.5 (graduate) or better, and sufficient research experience (e.g., peer-reviewed publication record, prior coursework in graduate-level statistics, and research methodology) to successfully complete degree requirements in a timely manner. Minimum acceptable GRE scores are at the 55th percentile or above for those who tested after August 1, 2011. Quantitative and verbal scores must be greater than 153 for each. For tests taken before August 1, 2011, a quantitative score must be greater than 680 and a verbal score must be greater than 500. Students who speak English as a second language will be required to demonstrate proficiency in spoken and written English through the TOEFL examination. TOEFL scores must be submitted to SDSU, Institution Code 4682, http://www.ets.org.
Advancement to Candidacy

In order to advance to candidacy, students must (1) complete their coursework, (2) pass a take-home qualifying examination, (3) develop a proposal of their dissertation research (NIH-style proposal format), and (4) pass an oral defense of their dissertation proposal with their committee. The qualifying examination will be objective and cover areas including data analysis, research methods, and substance use. The material for this examination will be taken from course materials related to each of these respective sequences. The student’s doctoral committee will develop and evaluate the take-home qualifying examination. Students must achieve at least 80 percent within two attempts in order to pass.

Specific Requirements for the Doctor of Philosophy
Degree
(Major Code: 49079) (SIMS Code: 558213)

All students must complete a minimum of 60 units and residency requirements on both campuses to include 24 semester units at SDSU and 36 quarter units at UCSD, and a minimum one year residence on each campus. Required SDSU coursework includes SWORK 800, 801, 850, 880, 881, and two SDSU electives. Required UCSD coursework includes MED 231, MED 257A and 257B, and two UCSD electives. In addition, each student will complete a take-home qualifying examination and the dissertation.

Section III.
Certificate and Credential Programs

Certificate in Social Work Administration
(SIMS Code: 558220)

Offered by the School of Social Work, the Advanced Certificate in Social Work Administration provides the following objectives:
- Enhance the skills and career prospects for students with a Master of Social Work degree who have moved into, or are interested in moving into, administrative positions in human service organizations;
- Enhance the talent pools for human service organizations that prefer managers and leaders with knowledge and skills in administrative practice and a strong grounding in clinical or direct practice service delivery;
- Contribute to increasing effectiveness of human service organizations in both client outcomes and management capacity.

Applicants to this program must possess a Master of Social Work in Clinical or Direct Practice. Applicants with other master’s degrees in human services field may be considered on a case-by-case basis. The following courses must be completed with a grade point average of 3.0 or above:
- SWORK 740/GERO 740 Advanced Seminar in Administration and Gerontology (3)
- SWORK 745 Advanced Seminar in Selected Topics in Social Work Administration (3)
- SWORK 758 Seminar in Social Work and Selected Fields of Practice: Information Systems and Knowledge Management (3)

Up to 12 units of completed certificate courses with a grade of B or better may be applicable to the Master of Social Work degree with the approval of the graduate adviser.

For further information, contact the program adviser, Dr. Thomas R. Packard, School of Social Work, tpackard@mail.sdsu.edu, or 619-594-6723.

Pupil Personnel Services Credential

The School of Social Work is accredited by the State of California Department of Education to offer the Pupil Personnel Services Credential in School Social Work and the Pupil Personnel Services Credential in Child Welfare and Attendance. The credentials can be awarded under two conditions:

1. As part of the regular MSW program being completed during the second year coursework. Students would be assigned to a second year SWORK 750 internship in an approved and supervised school placement. In addition, students must take SWORK 758 (School Social Work) as their fall elective course, and SWORK 798 for one unit in the spring.
2. As a post MSW student through Cal State Apply, http://www.calstate.edu/apply. Interested professionals must contact the PPS coordinator and apply for the program which consists of 12 units taken over two semesters beginning in the fall of each year. The program includes SWORK 758 (School Social Work – 3 units), SWORK 798 (1 unit), and SWORK 750 (4 units) each semester. SWORK 750 is a 20-hour per week internship required to accumulate the necessary time for the credentials.

Admission

Current students interested in the PPS credential need only file the regular SWORK 750 application during the spring semester prior to enrollment. Unless demand is high, students will generally be admitted to the credential program.

Post MSW students must submit an electronic application via http://gra.sdsu.edu/decisiondesk/ and must apply for admission to the credential program through Cal State Apply by the deadline. Post MSW students must then file the necessary field application to the coordinator of Field Education by the deadline date established for all students. In entering the program, admission is based upon available internship sites. Preference is given to current students. Official acceptance does not occur until late spring when all current students have been placed.

For further information contact Amalia Hernandez, PPS Coordinator, 619-594-6259, or email: amalia.hernandez@mail.sdsu.edu.

Courses Acceptable for Master’s and Doctoral Degree Programs in Social Work (SWORK)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

SWORK 558. Seminar in Community Organization and Problem Solving (3)
Prerequisite: Credit or concurrent registration in Social Work 489A, 489B, or 650.
Community change, consensus organizing model, environmental social work, problem solving, and strategies for serving socioeconomically under-served communities for future community organizers and human services administrators.

SWORK 596. Experimental Topics (1-4)
Selected topics in social work. See Class Schedule for specific content. Limit of nine units of any combination of 496, 498, 596 courses applicable to a bachelor’s degree. Maximum credit of six units of 596 applicable to a bachelor’s degree. Credit for 596 and 696 applicable to a master’s degree with approval of the graduate adviser.

GRADUATE COURSES

SWORK 601. Seminar in Social Welfare Policy and Services (3)
Social welfare as a social institution; philosophical, historical, and comparative analysis of the welfare functions, issues and problems in both policy and program development, implementation, and evaluation.
SWORK 610. Computer Application in Practice for Social Work and Gerontology (3)
Prerequisite: Social Work 690 [or Gerontology 690].
Computer technology in social work practice with emphasis on clinical and administrative applications, program monitoring, and support of service provision and delivery.

SWORK 619. Human Behavior in the Social Environment (3)
Conceptual framework to view and interpret behavior and to understand functioning of individuals, families, groups, organizations, and communities within ecological systems.

SWORK 620. Seminar in Human Behavior and Social Environment (3)
Prerequisite: Social Work 619.
Human behavior theories and concepts appropriate to a methods concentration.

A. Direct Practice

SWORK 630. Social Work Practice: A Generalist Perspective (3)
Prerequisite: Concurrent registration in Social Work 650.
Overview of generalist social work practice as a method and process. Generalist social work presented as a basic helping approach used to assist individuals, groups, families, organizations, and communities to achieve personal and social change.

SWORK 631. Social Work Practice: Individuals, Families, and Groups (3)
Prerequisites: Social Work 630 and concurrent registration in Social Work 650.
Preparation for direct intervention with individuals, families, and groups.

SWORK 632. Social Work and Gerontology: Organizations and Communities (3)
Prerequisites: Social Work 630 and concurrent registration in Social Work 650.
Theoretical knowledge of elementary organizational and interorganizational decision making in human service programs.

SWORK 650. Field Practicum (3-8) Cr/NC
Field instruction in public or voluntary social work setting. Seven units required. Maximum credit seven units. Experiences emphasize application of social work objectives, principles, and skills in service to individuals, families, groups, organizations, and communities.

SWORK 650. Social Work Foundation Practice Skills (3)
Prerequisite: Admission to advanced standing program.
Skill development and application of social work practice. Engagement, assessment, risk assessment, application of theoretical models to client situations.

SWORK 670. Social Work Foundation Practice Skills (3)
Prerequisite: Admission to advanced standing program.
Skill development and application of social work practice. Engagement, assessment, risk assessment, application of theoretical models to client situations.

SWORK 671. Generalist Foundation of Social Work Practice, Policy, and Human Behavior (3)
Prerequisite: Admission to advanced standing program.
Reviews generalist foundation of social work curriculum. Practice concepts at all practice levels, human development theories, and social welfare policies.

SWORK 690. Seminar in Research Methods for Social Work and Gerontology (3)
(Same course as Gerontology 690)
Research development, design, and methodology. Application to social work and gerontology in testing theories, advancing practice knowledge, and decision-making.

SWORK 696. Seminar on Selected Topics (3)
Overview of generalist social work practice as a method and process. Generalist social work presented as a basic helping approach used to assist individuals, groups, families, organizations, and communities to achieve personal and social change.

SWORK 702. Seminar in Selected Social Welfare Policy and Services (3)
Prerequisite: Social Work 601.
Selected social welfare policies used to examine processes of policy formulation, policy analysis skills, and relationships of policy decisions and indecisions to outcomes of social welfare interventions. Maximum credit six units applicable to a master's degree.

SWORK 720. Seminar in Selected Topics in Human Behavior and Social Environment (3)
Prerequisite: Social Work 620A.
Selected topics related to current theories of natural and induced change in human behavior which have utility for social work practice within fields of service. See Class Schedule for specific content. May be repeated with new content. Maximum credit six units applicable to a master's degree.

SWORK 739. Advanced Seminar in Social Work Practice with Families (3)
Prerequisites: Social Work 744 and concurrent registration in Social Work 750.
Family dynamics and social work practice related to family change.

SWORK 740. Advanced Seminar in Administration and Community Development in Social Work and Gerontology (3)
(Same course as Gerontology 740)
Prerequisites: Social Work 632 and concurrent registration in Gerontology 700A or Social Work 755.
Human services program design, strategic planning, marketing, organizational performance management, human resource management, and development of grant proposals.

SWORK 744. Advanced Seminar in Selected Topics in Direct Practice Social Work (3)
Prerequisites: Social Work 631, 632, and concurrent registration in Social Work 750.
Study of a selected aspect of direct practice social work. Topics include treatment methodology, theoretical approaches, levels of practice, specific client groups, or special problem areas. See Class Schedule for specific content.

SWORK 745. Advanced Seminar in Selected Topics in Social Work Administration (3)
Prerequisites: Social Work 740 [or Gerontology 740] and concurrent registration in Social Work 755.
Study of selected aspects of administration in human services organizations to include leadership, organizational learning, organizational change management, and supervision. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

SWORK 750. Advanced Field Practicum: Direct Practice Social Work (4) Cr/NC/RP
Prerequisites: Social Work 650 and concurrent registration in Social Work 739 or 740 [or Gerontology 740] and 744 or 745.
Advanced field instruction in public or voluntary social work setting. Eight units required. Continuation and intensification of experiences in application of social work objectives, principles and skills in service to individuals, families, groups and communities. Maximum credit eight units applicable to a master's degree.

SWORK 755. Advanced Field Practicum: Social Work Administration and Community Development (4)
Prerequisites: Social Work 650 and concurrent registration in Social Work 720 or Social Work 740 [or Gerontology 740] and 745.
Advanced field instruction in public or voluntary social work setting. Eight units required. Continuation and intensification of experiences in application of social work objectives, principles and skills in service organizations and communities. Maximum credit eight units applicable to a master's degree.

SWORK 758. Seminar in Social Work and Selected Fields of Practice (1-3)
Traditional and emerging fields of practice and related social work responsibilities and roles. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

SWORK 780. Seminar in Social Work and Selected Populations-at-Risk (3)
Social work practice with selected populations-at-risk such as one-parent families, children in institutions, ethnic minority immigrants, Native-Americans in the urban scene, and foreign-born brides of U.S. servicemen. See Class Schedule for specific content. May be repeated with new content. Maximum credit six units applicable to a master's degree.
SWORK 781. Seminar on Selected Populations-at-Risk (3)
Knowledge about and analysis of selected populations-at-risk, social work responsibilities in emerging service demands by diverse and needful, high risk segments of the population in a complex society, and implications for social work practice. Population-at-risk for study to be announced in Class Schedule. May be repeated with new content. Maximum credit six units applicable to a master's degree.

SWORK 791. Applied Social Work Practice Research Seminar (3)
Preparation for practitioner-researcher role through application of social work research concepts and procedures in practice situations (in class and field) of social work interventions. Maximum credit six units applicable to a master's degree.

SWORK 797. Research (3) Cr/NC/RP
Prerequisite: Consent of Instructor.
Research in one of the areas of social work. Maximum credit three units applicable to a master's degree.

SWORK 798. Special Study (1-3) Cr/NC/RP
Prerequisite: Consent of staff; to be arranged with director and instructor.
Individual study. Maximum credit three units applicable to a master's degree.

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

SWORK 799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP 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.

SWORK 799C. Comprehensive Examination Extension (0) Cr/NC
Prerequisite: Completion or concurrent enrollment in degree program courses.
Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.

**DOCTORAL COURSES**

SWORK 800. Seminar in Etiology and Pharmacology of Substance Abuse (3)
Advanced seminar experience related to alcohol and other drug etiological models and epidemiology of substance abuse.

SWORK 801. Seminar in Global Approaches to Substance Abuse Prevention and Treatment (3)

SWORK 850. Seminar in Theoretical Approaches to Substance Abuse (3)
Social science theory as it relates to substance use and misuse. Classic and current theory from ecological approach related to extant science.

SWORK 880. Advanced Seminar in Substance Abuse Research (3)
Substance abuse to include randomized clinical trials, prevention trials, field research, mixed methods, epidemiological approaches, etiological research. Classic methodological texts and emerging approaches examined.

SWORK 881. Advanced Multivariate Data Analysis (3)
Substance use and misuse to include analyses of biomarkers, complex survey data, observational data, and multi-level data.

SWORK 897. Doctoral Research (1-15) Cr/NC/RP
Prerequisite: Admission to the doctoral program. Prior to advancement to candidacy; independent investigation including the general field of the dissertation.

SWORK 899. Doctoral Dissertation (1-15) Cr/NC/RP
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.
Sociology
In the College of Arts and Letters

OFFICE: Nasatir Hall 224
TELEPHONE: 619-594-4826 / FAX: 619-594-1325
E-MAIL: sociology@sdsu.edu
http://sociology.sdsu.edu

Faculty
Norma Ojeda, Ph.D., Professor of Sociology, Chair of Department
Henry E. Johnston, Ph.D., Professor of Sociology
Ruth Xiaoru Liu, Ph.D., Professor of Sociology
Jung Min Choi, Ph.D., Associate Professor of Sociology
Jill Esbenshade, Ph.D., Associate Professor of Sociology
Enrico A. Marcelli, Ph.D., Associate Professor of Sociology
Michael A. McCall, Ph.D., Associate Professor of Sociology
Michael J. Roberts, Ph.D., Associate Professor of Sociology
AUDREY N. BECK, Ph.D., Assistant Professor of Sociology
Joseph R. Gibbons, Ph.D., Assistant Professor of Sociology
Minnesota Kim, Ph.D., Assistant Professor of Sociology

(Graduate Adviser)

Associateships and Assistantships
Graduate teaching associateships and graduate assistantships in sociology are available to a limited number of qualified sociology students. Application forms and further information are sent out to enrolled graduate students each semester for consideration.

General Information
The Department of Sociology offers graduate work leading to the Master of Arts degree in Sociology. Research facilities provided by the Department of Sociology include a well-equipped Social Science Research Laboratory for use by the faculty and graduate students. Faculty in the Department of Sociology are involved in a wide range of research activities. Regular opportunities exist for participation in these projects by graduate students within the department. The program also prepares students for teaching careers.

Admission to Graduate Study
Students will be admitted for the fall semester only. Application packages must be received and complete by the deadline. Deadlines are available on the university Graduate Division website. 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 graduate advisory committee may consider conditionally classified standing for students whose preparation is deemed insufficient. They will be required to complete specified courses in addition to the minimum of 30 units required for the degree.

Meeting all the indicated criteria does not guarantee admission to the program, since admission is also dependent on the facilities and resources available in the department.

There are two parts to the application process. Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee, and then go to the department website at http://sociology.sdsu.edu/graduate/application.html and follow the steps in DecisionDesk.

Graduate Admissions
The following materials should be submitted as a complete package directly to:

Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) One official transcript (in sealed envelopes) from each postsecondary institutions attended:
NOTE:
- Students who attended SDSU need only submit transcripts for work completed since last attendance.
- Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

(2) GRE scores (http://www.ets.org SDSU institution code 4682);
(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682);

Department of Sociology
The following admissions materials must be submitted electronically via DecisionDesk, http://gra.sdsu.edu/decisiondesk/:
(1) Three letters of recommendation (at least two must be from persons who can speak to academic ability);
(2) Personal statement;
(3) Writing sample (preferably an academic paper). If this is not available, send an extended, three to five page personal statement;
(4) Copy of transcript (these do not need to be sent directly from the colleges; photocopies are acceptable).

Advancement to Candidacy
All students must satisfy the general requirements for advancement to candidacy as described in Part Four of this bulletin. Students must have taken the first three courses of the core course series (Sociology 600, 601, 607). Students must have a 3.0 in their program courses and no less than a B– grade in each core course.

Specific Requirements for the Master of Arts Degree
(Major Code: 22081) (SIMS Code: 116901)
In addition to meeting the requirements for classified graduate standing and the basic requirements for the master’s degree, as described in Part Four of this bulletin, students must complete 30 units in the master’s program. Students must complete the program of study courses with a grade point average of 3.0 or better. The 30 units to include the following courses:
1. Five core courses: Sociology 600, 601, 605, 607, 608.
2. Two 700-level seminars in the Department of Sociology.
3. Two electives: 500- to 700-level courses in the Department of Sociology or another department with approval of the graduate adviser. No more than one elective course can be independent study.
Courses Acceptable for Master's Degree Program in Sociology (SOC)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

SOC 522. The Family in Comparative and Cross-Cultural Perspectives (3)
Prerequisite: Sociology 101. Recommended: Sociology 421.
Comparative study of selected family systems in the past and present. Comparative analysis of major social and demographic changes in marriage and family in post-industrial nations and less developed countries. Cross-cultural comparisons of family arrangements in contemporary America by social classes and racial-ethnic groups.

SOC 531. Working and Society (3)
Prerequisite: Sociology 101.
Structure and change in labor force, nationally and internationally. Social drama of work: self, roles, conflict, subcultures. Includes exploration of student work experiences, workers in the community, literacy, and film depictions of work worlds.

SOC 537. Political Sociology (3)
Prerequisite: Sociology 101.
Social organization of political processes. Power and authority, social class, primary groups, collective behavior, social change, and other sociological factors considered in their relationships to political processes.

SOC 539. Sociology of Education (3)
Prerequisite: Sociology 101.
Social organization of education in the United States and other societies. Structure and functions of educational institutions. Formal and informal education. Class, ethnic, and other social factors affecting the educational process. Implications of educational decision making and testing.

SOC 543. Police, Courts, and Corrections: The Sociology of Crime and Punishment (3)
Prerequisite: Sociology 101.

SOC 554. Sociology of the United States-Mexico Transborder Populations and Globalization (3)
Prerequisite: Sociology 101.

SOC 555. Immigrants and Refugees in Contemporary American Society (3)
Prerequisite: Sociology 101.
Contemporary migration to the United States, especially from Latin America and Asia. Political and economic migration. Immigrant and refugees adaptation. Theoretical controversies, research applications, and policy implications.

SOC 596. Current Topics in Sociology (1-3)
Prerequisite: Sociology 101.
Selected specialized, controversial or currently relevant topics in sociology. Maximum opportunity provided for student initiative in determining course content and procedures. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 596, 496, 596 courses applicable to a bachelor's degree. Maximum credit of six units of 596 applicable to a bachelor's degree with approval of the graduate adviser.

SOC 597. Investigation and Report (3)
Prerequisites: Fifteen units in sociology and consent of instructor. Analysis of special topics in sociology. Maximum credit six units.

GRADUATE COURSES

SOC 600. Proseminar in Sociology: Core Course (3)
Prerequisite: Graduate standing.
Elements of profession of sociology and sociological research procedures. Connection between theoretical perspectives and appropriate research methods. Practice in scientific sociological writing styles to develop a master's thesis proposal.

SOC 601. Advanced Classical Social Theory: Core Course (3)
Prerequisite: Graduate standing.
Systematic treatment of original European and American classic sociological writings.

SOC 605. Advanced Contemporary Social Theory: Core Course (3)
Prerequisite: Graduate standing.
Examination and analysis of original works in modern/postmodern sociological theory.

SOC 607. Advanced Quantitative Methods: Core Course (3)
Prerequisites: Graduate standing and Sociology 201.
Research methods appropriate to particular types of sociological projects with emphasis on analysis of descriptive statistics and use of linear and non-linear regression methods. Methods of evaluating reported findings in sociological research.

SOC 608. Advanced Qualitative Methods: Core Course (3)
Prerequisites: Graduate standing and credit or concurrent registration in Sociology 600.
Qualitative methods for data collection, analysis, and reporting in contemporary sociological research and related disciplines. Study, practice, critiques of techniques; ethnography, interviews, archival research, content analysis.

SOC 695. Topics in Directed Readings (3)
Prerequisite: Credit or concurrent registration in at least one core course or one seminar. Selected reading providing coverage of social theory, social disorganization, social organization, social institutions, social psychology (sociological approaches), community research methods, population and demography, or special topics. Maximum credit three units applicable to a master's degree.

SOC 696. Experimental Topics (3)
Prerequisite: Graduate standing.
Intensive study in specific areas of sociology. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

SOC 700. Seminar in Social Theory (3)
Prerequisites: Sociology 401 and 407.
Classics of sociology, American social theory, theory construction, application of theory to research, theoretical models, sociology of knowledge, special topics. See Class Schedule for specific content. May be repeated with new content. Maximum credit six units applicable to a master's degree.

SOC 730. Seminar in Social Institutions (3)
Prerequisites: Sociology 407 and 430.
The family and kinship, political organization, economic organization, religion, education, industry, occupations and professions, social stratification, special topics. See Class Schedule for specific content. May be repeated with new content. Maximum credit six units applicable to a master's degree.
SOC 743. Seminar in Criminology and Criminal Justice Theory (3)  
Prerequisites: Graduate standing, 12 graduate units, Sociology 401.  
History of criminological theory and review of leading contemporary  
theories of crime and criminal justice with focus on interconnection  
among social context, policy making, and methodological implications  
of theories.

SOC 796. Field Practicum (3) Cr/NC  
Prerequisites: Sociology 601, 607, 608.  
Supervised field placement in community agency. Application of  
sociological theories and methods to policy and research needs of  
agency. Maximum credit six units applicable to a master's degree.

SOC 797. Research (3) Cr/NC/RP  
Prerequisite: Sociology 407.  
Independent investigation of special topics. Maximum credit three  
units applicable to a master's degree.

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

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

SOC 799B. Thesis Extension (0) Cr/NC  
Prerequisite: Prior registration in Thesis 799A with an assigned  
grade symbol of RP.  
Registration required in any semester or term following assignment  
of RP 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.

SOC 799C. Comprehensive Examination Extension (0) Cr/NC  
Prerequisite: Completion or concurrent enrollment in degree  
program courses.  
Registration required of students whose only requirement is  
completion of the comprehensive examination for the master's  
degree. Registration in 799C limited to two semesters.
Spanish
In the Department of Spanish and Portuguese Languages and Literatures
In the College of Arts and Letters

OFFICE: Arts and Letters 134
TELEPHONE: 619-594-6588 / FAX: 619-594-5293

Faculty
Alda Blanco, Ph.D., Professor of Spanish, Chair of Department
Juan M. Godoy Marquet, Ph.D., Professor of Spanish
José Mario Martín-Flores, Ph.D., Professor of Spanish
(Graduate Adviser)
Alfredo Urzúa Beltrán, Ph.D., Associate Professor of Spanish
Ricardo Vasconcelos, Ph.D., Associate Professor of Portuguese
Lauren B. Schmidt, Ph.D., Assistant Professor of Spanish

Associateships
Graduate teaching associateships in Spanish are available to a limited number of qualified students. New teaching associates are required to enroll in Spanish 770 during their first semester as teaching associates. Application blanks and additional information may be secured from the chair of the department.

General Information
The Department of Spanish and Portuguese Languages and Literatures offers graduate study leading to the Master of Arts degree in Spanish. The program prepares students for a professional career in teaching.
Library facilities include rich resources in Spanish literature and linguistics, including books, periodicals and newspapers. A Language Acquisition Resource Center with modern equipment is available to both graduate and undergraduate students.

Admission to Graduate Study
All students must satisfy the general requirements for admission to the university with classified graduate standing, as described in Part Two of this bulletin. An undergraduate major in Spanish is preferable. Applicants from other disciplines may be accepted at the discretion of the graduate admissions committee.
Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.
All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the Department of Spanish and Portuguese.

Graduate Admissions
The following materials should be submitted as a complete package directly to:
Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;
NOTE:
• Students who attended SDSU need only submit transcripts for work completed since last attendance.
• Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

(2) GRE scores (http://www.ets.org SDSU institution code 4682);
(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

Department of Spanish and Portuguese Languages and Literatures
The following materials should be mailed or delivered to:
Department of Spanish and Portuguese Languages and Literatures
(Attention: Graduate Adviser)
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-7703

(1) Three letters of recommendation from professors who are familiar with your abilities as a student;
(2) Statement of purpose in Spanish;
(3) Writing sample (preferably a research paper or essay written in Spanish that was submitted in an undergraduate course from 6 to 10 pages).

Advancement to Candidacy
In addition to meeting the requirements for advancement to candidacy as described in Part Four of this bulletin, students may be required to pass a qualifying examination in Spanish given by the Department of Spanish and Portuguese Languages and Literatures.

Specific Requirements for the Master of Arts Degree
(Major Code: 11051) (SIMS Code: 117101)
In addition to meeting the requirements for classified graduate standing and the basic requirements for the master’s degree as described in Part Four of this bulletin, the student must complete an approved graduate program of at least 30 units to include Spanish 601, 602 604, 606, 661, 770 and 12 units of electives selected in consultation with the graduate adviser.
Students may elect either Plan A, Thesis; or Plan B, Comprehensive Examination to meet the culminating experience requirement for the Master of Arts degree in Spanish.
All candidates must demonstrate knowledge of Portuguese by passing an examination administered by the department or by completing Portuguese 101 or 201.
Courses Acceptable for Master's Degree Program in Spanish (SPAN) (PORT)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

Spanish (SPAN) UPPER DIVISION COURSES

All upper division courses in Spanish are taught in Spanish unless otherwise stated.

SPAN 501. Genre Studies in Spanish Literature (3)
Prerequisites: Spanish 401 and 402.
A specific literary genre: overview of the genre's development in Spanish literature (Spanish novel, short story, theatre) or focus on a narrower period (contemporary narrative, modern poetry). May be repeated with new title and content. See Class Schedule for specific content. Maximum credit six units.

SPAN 502. Genre Studies in Spanish American Literature (3)
Prerequisites: Spanish 401 and 402.
A specific literary genre: overview of the genre's development in Spanish American literature (the Spanish American novel, short story, theatre) or focus on a narrower period (vanguardista poetry, the "Boom"). May be repeated with new title and content. See Class Schedule for specific content. Maximum credit six units.

SPAN 504. Don Quixote (3)
Prerequisites: Spanish 401 and 402.
A close reading of Cervantes' novel Don Quixote, Parts I and II.

SPAN 515. Mexican Literature (3)
Prerequisites: Spanish 401 and 402.
Mexican literature from the Romantic period to the present. Special emphasis placed on contemporary era.

SPAN 561. Methods in Teaching Spanish as a Second Language (3)
Prerequisite: Spanish 350 or 448.
Teaching of Spanish as a second language: contemporary theory and methods.

SPAN 594A. Consecutive English/Spanish Interpretation (3)
Prerequisite: Spanish 350 or 391.
Consecutive interpretation techniques focusing on current events to include notetaking technique for interpreters, preparation for meetings, language register, active listening, structure of a speech, abstracting meaning, sight translation in the booth.

SPAN 594B. Simultaneous English/Spanish Interpretation (3)
Prerequisite: Spanish 594A with a grade of B (3.0) or better.
Simultaneous interpretation techniques focusing on current events. Simultaneous, whispered, and relay interpretation, preparation for meetings, language register, listening, structure of a speech, abstracting, sight translation in the booth.

SPAN 596. Selected Studies in Spanish (3)
Prerequisites: Spanish 401 and 402 or 448.
Topics in Spanish or Spanish American language, literature, culture and linguistics. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 596, 496, 596 courses applicable to a bachelor's degree. Maximum credit of six units of 596 applicable to a bachelor's degree. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

SPAN 597. Special Topics (3)
Prerequisite: Consent of instructor.
Specific topic in Spanish literature, linguistics, or culture. May be repeated with new content. Credit for 597 and 697 applicable to a master's degree with approval of the graduate adviser.

SPAN 601. Seminar in Hispanic Literary Theory (3)
Prerequisite: Graduate standing.
Critical issues in Hispanic literary theory. Emphasis on contemporary theory: structuralism, post-structuralism, feminism, cultural studies, and gay and lesbian studies.

SPAN 602. Foundations and Research Methods of Hispanic Linguistics (3)
Prerequisite: Graduate standing.
Morphology, phonology, syntax of Spanish in historic and regional varieties. Qualitative and quantitative research related to sociolinguistics and pragmatics of Spanish, language acquisition, bilingualism, contact varieties, Spanish in teaching and translation.

SPAN 604. Spanish Literature: Eighteenth to Twentieth Century (3)
Prerequisite: Spanish 601.
A specific literary period: overview of the period's development in Spanish literature (Spanish novel, short story, theatre) or focus on a narrower period (contemporary narrative, modern poetry). May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

SPAN 606. Spanish American Literature: Independence to Present (3)
Prerequisite: Spanish 601.
Spanish American literature in its artistic and ideological tendencies from age of independence to present. Literary movements include romanticism, Modernismo, criollismo, and indigenismo.

SPAN 611. Advanced Topics in Spanish Linguistics (3-6)
Prerequisite: Spanish 602.
Specific aspect of Spanish descriptive, historical, or theoretical linguistics. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

SPAN 612. Seminar in Spanish Discourse Analysis (3)
Prerequisite: Spanish 602.
Analysis of oral discourse in Spanish. Basic readings in field and strategies to collect and analyze data.

SPAN 630. Golden Age Drama (3)
Prerequisite: Spanish 601.
The works of Lope de Vega and Calderon among others.

SPAN 631. Spanish Women Writers (3)
Prerequisite: Spanish 601.
Feminist and cultural studies approach to works of Spanish women writers. Analysis of issues on gender, class, race. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

SPAN 661. Issues in the Study of Spanish Bilingualism (3)
Prerequisite: Spanish 601.

SPAN 696. Selected Topics (3)
Prerequisite: Consent of instructor.
Specific topic in Spanish. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

SPAN 750. Seminar in Spanish American Literature (3)
Prerequisite: Spanish 601.
A genre or movement of Spanish American literature. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.
SPAN 751. Seminar in Realism (3)
Prerequisite: Spanish 601.
Theoretical and historical underpinnings of literary realism. Examines key realist texts from variable periods in Spain or Latin America. Topics include the picaresque novel, naturalism, regional novel, thesis novel, and magical realism. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

SPAN 752. Seminar in Literature and Culture of the Fin-de-Siécle (3)
Prerequisite: Spanish 601.
Cultural and socio-political discourses that shape literary and non-literary texts at the turn of the century. Spanish, Latin American, or transatlantic texts and fin-de-siècle periods, such as nineteenth to twentieth century, transition to new millennium. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

SPAN 755. Seminar in Spanish American Culture, Film, and Society (3)
Prerequisite: Spanish 601.
Works of representative authors and cultural production of Spanish America. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units applicable to a master's degree.

SPAN 760. Seminar in Reading in the Transatlantic Imaginary (3)
Prerequisite: Spanish 601.
Exploration and critical analysis of texts produced by authors who lived and wrote between Spain and Spanish-America. Relationship between a cultural text and its place of origin.

SPAN 770. Applied Spanish Linguistics for Teachers (3)
Prerequisite: Spanish 602.
The application of linguistic theory to the teaching of Spanish at the secondary and college levels.

SPAN 781. Spanish Language Testing (3)
Prerequisite: Spanish 602.
Theories and research on language testing with emphasis on Spanish. Types and purposes of language measurement instruments. Characteristics of tests: practicality, instructional value, validity, reliability, test difficulty. Overview of test formats/methods and their consequences.

SPAN 792. Spanish Language and Society (3)
Prerequisite: Spanish 602.

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

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

SPAN 799B. Thesis Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of RP.
Registration required in any semester or term following assignment of RP 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.

SPAN 799C. Comprehensive Examination Extension (0) Cr/NC
Prerequisite: Completion or concurrent enrollment in degree program courses.
Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.

Portuguese (PORT)
UPPER DIVISION COURSES
All upper division courses in Portuguese are taught in Portuguese unless otherwise stated.

PORT 530. Portuguese Literature (3)
Prerequisite: Portuguese 311 or 312.
Foremost authors, movements, and works in the literature of Portugal.

PORT 535. Brazilian Literature (3)
Prerequisite: Portuguese 204.
Important movements, authors, and works of the literature of Brazil from the colonial period to modern times.

PORT 540. Luso-Brazilian Literature (3)
Prerequisite: Portuguese 311 or 312.
Portuguese and Brazilian literary genres, movements, and texts of historical and modern aesthetics discussed from a transatlantic perspective.

Special Education
Refer to “Education” in this section of the bulletin.
Speech, Language, and Hearing Sciences
In the College of Health and Human Services

OFFICE: Speech, Language, and Hearing 221
TELEPHONE: 619-594-7746 / FAX: 619-594-7109
http://slhs.sdsu.edu

Faculty
Tracy E. Love-Geffen, Ph.D., Professor of Speech, Language, and Hearing Sciences, Interim Director of School
Jessica A. Barlow, Ph.D., Professor of Speech, Language, and Hearing Sciences
Karen D. Emmorey, Ph.D., Albert W. Johnson Distinguished Professor of Speech, Language, and Hearing Sciences
Steven J. Kramer, Ph.D., Professor of Speech, Language, and Hearing Sciences
Peter Torre, Ill, Ph.D., Professor of Speech, Language, and Hearing Sciences
Henrike K. Blumenfeld, Ph.D., Associate Professor of Speech, Language, and Hearing Sciences
Laura Dreisbach-Hawe, Ph.D., Associate Professor of Speech, Language, and Hearing Sciences
Ignatius Nip, Ph.D., Associate Professor of Speech, Language, and Hearing Sciences (Graduate Adviser)
Sonja Pruitt-Lord, Ph.D., Associate Professor of Speech, Language, and Hearing Sciences
Alyson Abel Mills, Ph.D., Assistant Professor of Speech, Language, and Hearing Sciences
Giang M. Pham, Ph.D., Assistant Professor of Speech, Language, and Hearing Sciences
Stephanie Ries-Cornou, Ph.D., Assistant Professor of Speech, Language, and Hearing Sciences

General Information
The master’s degree program in speech-language pathology and professional doctorate in audiology (Au.D.) are accredited by the Council on Academic Accreditation in Audiology and Speech-Language Pathology. The School of Speech, Language, and Hearing Sciences offers graduate study leading to the Master of Arts degree in speech, language, and hearing sciences, and to the credentials described below. The cooperating faculties of San Diego State University and the University of California, San Diego, offer a joint program leading to a Ph.D. in language and communicative disorders and a professional doctorate in audiology (Au.D.). The School of Speech, Language, and Hearing Sciences is committed to preparing speech-language-hearing professionals to meet the challenges of a culturally and linguistically diverse society. An M.A. degree in speech, language, and hearing sciences provides the necessary education, technical training, and creative experience necessary for professional activity, college-level teaching, and preceptorship in speech-language pathology and related fields.

The programs utilize the facilities of the Speech, Language, and Hearing building, which includes observation rooms, school reference collection, and speech and hearing science laboratories. In the laboratories, students use acoustic immittance equipment, audiometric response simulators, EEG, electromagnetic articulography, eye-tracking, digital spectrograph, hearing aid analyzer, laryngoscopic manikin, microprocessor based diagnostic audiometers, miniphonators, optical motion capture, personal computers, phonic mirror, spectral signal analyzer, state-of-the-art ENG and evoked potential equipment, Visipitch, and video and audio equipment with ongoing new acquisitions.

In addition, the school utilizes its on-campus audiology and speech-language clinics. Students and faculty participate in providing direct delivery of clinical services to clients and participate in the assistive device assessment program, which evaluates and recommends augmentative or alternative means of communication for persons with severe communication impairment. Field experience is offered in the public schools and community agencies. Practicum and observation experiences are possible at various hospitals, schools, community agencies, and rehabilitation agencies.

Section I. Master’s Degree Programs

Admission to Graduate Study
Students will be admitted to the graduate programs only in the fall semester. Applications to the university must be submitted by January 12 for the master’s degree programs in speech-language pathology and communicative sciences. For application information, see the school’s website, http://slhs.sdsu.edu, select “M.A. Application” from the index or call 619-594-7746.

All students must satisfy the general admission and examination requirements for admission to the university with classified graduate standing as described in Part Two of this bulletin. In addition, the applicant must satisfy the following requirements before being considered for admission to classified graduate standing by the school’s Admissions Review Committee:

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the application fee by December 15. All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the School of Speech, Language, and Hearing Sciences. Incomplete applications will not be reviewed.

Deadline for receipt: January 12.

Graduate Admissions
The following materials should be submitted as a complete package directly to:

Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;
NOTE:
- Students who attended SDSU need only submit transcripts for work completed since last attendance.
- Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

(2) GRE scores (http://www.ets.org SDSU institution code 4682);
(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

School of Speech, Language, and Hearing Sciences
The following admissions materials must be submitted electronically via DecisionDesk, http://gra.sdsu.edu/decisiondesk/ by January 12:

(1) Essay;
(2) Curriculum vitae or resume;
(3) Transcripts;
(4) Letters of recommendation (Applicants must provide names and e-mail addresses for recommenders. Recommenders will be sent e-mail to electronically complete letter of recommendation).
Once the above requirements have been satisfied, the applicant's file is considered complete and eligible for review by the school's Admissions Review Committee. Admission to the graduate programs is guided by criteria common to all the schools and departments within the university, including the School of Speech, Language, and Hearing Sciences. Applicants whose files are incomplete will not be eligible for admission to classified graduate standing. The number of new admissions is restricted and is determined by space availability; therefore, admission is based on consideration of all application materials and the relative merits of individual applicants among all eligible applicants.

Graduate faculty serve as graduate advisers and are assigned to students upon admission.

**Advancement to Candidacy**

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

## Specific Requirements for the Master of Arts Degree

**Major Code:** 12203

In addition to meeting the requirements for classified graduate standing, and the baccalaureate requirements for the master's degree as described in Part Four of this bulletin, the student must complete a graduate program of at least 36 units (64 units for the Concentration in Speech-Language Pathology). A student must complete Speech, Language, and Hearing Sciences 799A, Thesis for Plan A. The thesis is optional; however, if elected, the student must pass a written comprehensive examination (which may be repeated only twice). No more than six units of coursework outside the school acceptable for the graduate level may be applied to the master's degree. The School of Speech, Language, and Hearing Sciences offers three concentrations leading to the Master of Arts degree. Students in each concentration must have already completed a bachelor's degree (or approved level coursework) in speech, language, and hearing sciences (or equivalent). Each concentration requires completion of a specific pattern of graduate units described below:

### A. Concentration in Speech-Language Pathology (SIMS Code: 550182)

This concentration has a clinical focus and may be used to satisfy the academic and clinical preparation for the Certificate of Clinical Competence in Speech-Language Pathology from the American Speech-Language-Hearing Association (ASHA); for the Speech-Language Pathology Credential from the California Commission on Teacher Credentialing; and for licensure from the State of California. Students are required to complete three units of 799A (Plan A) as part of the 33 units or pass a comprehensive examination (which may be repeated only twice). No more than six units of coursework outside the school acceptable for the graduate level may be applied to the master's degree. The following courses are required: Speech, Language, and Hearing Sciences 570, 600A, 600B, 606, 607, 608, 609A, 609B, 613, 614, 617, 675, 676, 677, 704. Students must also complete three units of Speech, Language, and Hearing Sciences 707, 750, 790, or 793. An additional six units must be selected from Speech, Language, and Hearing Sciences 707, 750, 790, 793, 795, 797, 798, or 799A with approval of adviser. A minimum of 19 units in the following clinical practicum courses are required: Speech, Language, and Hearing Sciences 525 (4 units); 521 and/or 618A and/or 619 (1-3 units); 618B (1-2 units); 626A, 626B, and/or 626C (3-5 units); 627 (3 units), 629 (1 unit); 630 (1 unit); and 933 (4 units). For students lacking transcript credit in aural rehabilitation, Speech, Language, and Hearing Sciences 546 (2 units) is also required. It is school policy that all students maintain a 3.0 grade point average in their program coursework.

### B. Concentration in Speech-Language Pathology: Bilingual Specialization (SIMS Code: 550183)

Students who have an interest in working with bilingual clients are encouraged to apply to the concentration in speech-language pathology with a specialization in bilingualism. Students are required to pass a language proficiency test in a language other than English. To be a candidate for the specialization, a student must be admitted to the master's degree program in speech-language pathology since the specialization is coordinated with these endeavors. This concentration has a clinical focus and may be used to satisfy the academic and clinical preparation for the Certificate of Clinical Competence in Speech-Language Pathology from the American Speech-Language-Hearing Association (ASHA); for the Speech-Language Pathology Credential from the California Commission on Teacher Credentialing; and for licensure from the State of California. Students are required to complete coursework in all of the following areas: articulation, fluency, voice and resonance, receptive and expressive language, hearing, swallowing, cognitive and social aspects of communication, and augmentative and alternative communication modalities.

### C. Concentration in Communicative Sciences (SIMS Code: 550142)

This concentration has a clinical focus and may be used to satisfy the academic and clinical preparation for the Certificate of Clinical Competence in Speech-Language Pathology from the American Speech-Language-Hearing Association (ASHA); for the Speech-Language Pathology Credential from the California Commission on Teacher Credentialing; and for licensure from the State of California. Students are required to complete three units of 799A (Plan A) as part of the 33 units or pass a comprehensive/examifying examination (Plan B).

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### Section II.

**Doctoral Program**

http://slhs.sdsu.edu/phd

**General Information**

The cooperating faculties of San Diego State University and the University of California, San Diego, offer a joint doctoral program in language and communicative disorders. The program's focus is the interdisciplinary study of language and communicative disorders. A major emphasis of the program is to apply techniques developed in cognitive science and neuroscience to the study of language and language disorders. The program involves study and research in normal and abnormal language (including sign languages), and in the neural bases of language use and language loss. Participating faculty have research interests in a wide range of issues in the processes of language development, language and aging, multilingualism, language disorders, assessment, and...
Admission to Doctoral Study

The doctoral program in language and communicative disorders draws from a variety of disciplines including cognitive science, engineering, linguistics, neuroscience, psychology, speech, language, and hearing sciences, and other related sciences. Students should have adequate preparation in mathematics, statistics, research, and biological sciences. Backgrounds in neurosciences and/or language sciences, or language disorders are helpful, but not required for admission.

Applicants for admission to the doctoral program must meet the general requirements for admission to both universities, as specified in the current SDSU and UCSD catalogs. Applicants must meet the special requirements of this program which include: (a) an acceptable baccalaureate or master's degree or equivalent from a regionally accredited institution; (b) a GPA of at least 3.25 on a 4.0 scale in the last 60 semester (or 90 quarter) credits of upper division and/or graduate courses (c) good standing in the last institution attended; (d) suitable scores on the analytic, quantitative, and verbal sections of the Graduate Record Examination; (e) submission of appropriate application forms and supporting materials as outlined below.

Applicant files are reviewed as a group by an admissions committee, composed of doctoral program faculty from each campus. Other doctoral faculty may review applicant files and make recommendations to the admissions committee. Assuming that the above requirements are met, decisions will also be guided by an evaluation of the adequacy of the applicant's preparation in view of their stated needs and objectives. Given the limited number of spaces available (4 to 6 new admissions each year are anticipated, subject to available facilities), the admissions committee will select the best qualified applicants to fill the available spaces. No minimum set of qualifications will guarantee an applicant admission to the doctoral program. The admissions committee will make recommendations for admission to the graduate dean from each campus.

Application Guidelines for the SDSU/UCSD Joint Doctoral Program in Language and Communicative Disorders

To be admitted to the Joint Doctoral Program, applicants must electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee. All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the SDSU/UCSD Joint Doctoral Program.

Graduate Admissions

The following materials should be submitted to:

Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all postsecondary institutions attended;
NOTE: 
- Students who attended SDSU need only submit transcripts for work completed since last attendance.
- Students with international coursework must submit both the original transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.
(2) GRE scores (http://www.ets.org SDSU institution code 4682);
(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

SDSU/UCSD Joint Doctoral Program

The following admissions materials must be submitted electronically via DecisionDesk, http://gra.sdsu.edu/decisiondesk by January 12:
(1) Essay;
(2) Curriculum vitae or resume;
(3) Transcripts;
(4) Letters of recommendation (Applicants must provide names and e-mail addresses for recommenders. Recommenders will be sent e-mail to electronically complete letter of recommendation).

Specific Requirements for the Doctor of Philosophy Degree

(Major Code: 12201) (SIMS Code: 550102)

Faculty Adviser. Upon admission to the program, the executive committee will assign each student a faculty adviser. The faculty adviser will help the student select a program of study during the first year. The faculty adviser, in conjunction with the doctoral program coordinators, will help the student select a first laboratory rotation. Once the student has selected a major area of study (see below) the student will be reassigned an appropriate adviser, if necessary.

Residency Requirements. Students will be required to complete credits equivalent to one year's full-time enrollment at each campus. The definition of residence must be in accord with the regulations of SDSU (http://arweb.sdsu.edu/es/registrar/residency.html) and UCSD (https://students.ucsd.edu/finances/fees/residence/status-change.html). Students may be enrolled in courses at both institutions during any given semester/quarter.

Language Requirement. Students are required to have some experience in the acquisition of a second language. This may be satisfied through informal learning, immersion, or two or more years
of formal coursework in a second language. Any recognized natural language will be acceptable to fulfill this requirement (including American Sign Language or other sign languages). Artificial languages, e.g., computer language, are not acceptable. Course electives must satisfy this requirement. For students selecting the multilingualism concentration, proficiency must be demonstrated in English and at least one other language.

**Major Area of Concentration.** By the end of the first year, all students select a major field of emphasis by choosing one of three concentrations: Child Language, Adult Language, or Multilingualism. All students will be required to take some courses in each of the three concentrations.

The Adult Language concentration is intended to provide intensive education in communicative disorders in adults. Students in this concentration will also develop expertise in the study of language processing in normal adults.

The Child Language concentration is intended to provide specialized education in childhood (birth to adolescence) communicative disorders. Students in this concentration will also achieve competence in developmental psycholinguistics emphasizing language acquisition in normally-developing children.

The Multilingualism concentration is intended to provide education in cross-linguistic, ethnographic, and other comparative studies of communicative disorders in children and/or adults, including those associated with bilingualism and second language acquisition (including acquisition of sign language in deaf individuals).

**Course Requirements.** The program for each student will consist of a common core of courses designed to provide the basic tools for research and a foundation knowledge in the important issues in language and cognitive sciences, communicative disorders, computer science, linguistics, neuroscience, and psychology. Consult with adviser for approved elective courses. Other electives may be taken to satisfy this requirement with permission of the adviser. The four required electives must be approved by the student’s adviser and the doctoral program coordinators. Students may select additional electives with approval of the adviser.

**Laboratory Rotations.** In order to obtain experience in different research methodologies or with different populations, each student will be required to complete two laboratory rotations, each lasting a minimum of one semester or quarter. During each rotation, students will enroll in the associated laboratory course. The laboratory rotations must be approved by the student’s adviser and the doctoral program faculty member who supervises that laboratory.

**Projects.** All students will be required to complete two research projects during their first two years of the program (first and second year projects). These projects are usually connected with the laboratory rotations and approved by the doctoral program faculty working in the laboratory. These projects will involve experiment design, data collection, analyses, preparation of a potentially publishable manuscript, and an oral presentation of the research findings at the annual doctoral colloquium. Students will be encouraged to submit their projects for presentation at professional meetings and to submit them to an appropriate journal.

**Methods Minor.** All students will be required to develop basic expertise in experimental design and statistics, and all students will become familiar with standard techniques for behavioral assessment, e.g. language and cognitive testing, standardized tests of language ability, analyses of free speech, design and implementation of experimental measures of language and other related cognitive behaviors. In addition, by the end of the third year, all students will declare a methods minor from one of three options: behavioral dynamics, imaging, or neural modeling. It is expected that the student will gain experience in the chosen minor through at least one laboratory rotation and enrollment in applicable courses selected with adviser recommendation.

The Behavioral Dynamics minor is intended for students who want to specialize in computer-controlled methods for the study of language and cognitive processing in real-time.

The Neural Imaging minor is intended for students who want to complement behavioral studies with neuro-anatomical and neuro-physiological techniques, including event-related brain poten-
tials and functional magnetic resonance imaging.

The Neural Modeling minor is intended for students who are interested in the simulation of normal and abnormal language and cognition in artificial neural networks. Students who elect this minor will be required to take Cognitive Science 210F or Computer Science and Engineering 258A as an elective.

**Qualifying Examination.** After successful completion of the first and second year projects, the student is eligible to take the qualifying examination. The qualifying examination consists of a written component which is to be in the form of a scholarly review of one or more issues related to the student’s chosen area of research and an oral component which will be a formal presentation of the paper to be presented at the annual fall doctoral colloquium or at a separate colloquium. Students will be encouraged to write their integrative paper in a form and quality which may be submitted to an appropriate journal.

**Teaching.** The teaching requirement may be satisfied by one of two options. Model 1 requires that the doctoral student teach a full course and submit the course syllabus to the Executive Committee for review at the end of the semester/quarter. Model 2 requires that the doctoral student serve as a TA (SDSU and/or UCSD) for two courses. The student will develop a syllabus in an area related to one of these courses and present a master lecture to the Executive Committee and an invited audience on a topic in the syllabus chosen by the Executive Committee.

**Dissertation Committee.** Prior to developing a dissertation proposal, the student must have a dissertation committee. The committee members are recommended by the doctoral program coordinators with consent of the executive committee, and then appointed by the graduate deans of both campuses. The dissertation committee will consist of at least five members, including four from the doctoral program faculty groups (with at least two members from each campus) and one tenured faculty member who is in a different department than the committee chair.

**Dissertation Proposal.** The dissertation proposal will take the form of an NIH or NSF grant proposal. For model 1 dissertation (see below), the proposal will be based on completed research which become pilot studies for the grant proposal. The student may be encouraged to submit the grant proposal to support their future research, e.g. post doctoral studies, or a First Investigator Award. For model 2 dissertation, the proposal will become the basis for the dissertation research to be completed. The dissertation proposal must be approved by the student’s dissertation committee.

**Advancement of Candidacy.** A student will be recommended for advancement to candidacy after completing all requirements as described above, including the qualifying examination and the dissertation proposal. Students eligible for advancement to candidacy are recommended to the graduate deans of both institutions. When approved by both institutions, students will be notified by the Graduate Studies office at UCSD. Advancement is required to take place by the end of the student’s fourth year. Delay in advancement beyond the fourth year must be approved by the executive committee and then by the dean of graduate affairs at UCSD.

**Dissertation.** After advancement to candidacy, the remaining requirement will be the satisfactory completion of a dissertation. The dissertation may take one of the following two forms:

- **Model 1 dissertation.** Students who have maintained continuity through their second year project, qualifying examination, and dissertation proposal, and who have successfully generated publishable research which has been submitted to respected journals, may use a minimum of three such interconnected manuscripts as their dissertation.
- **Model 2 dissertation.** Students may choose to carry out a more traditional dissertation involving the appropriate written presentation of original research carried out by the student under the guidance of the dissertation committee chair.

**Dissertation Defense.** The dissertation defense will be the same for both dissertation models and will consist of an oral presentation of the dissertation material to the doctoral committee and a publicly invited audience.
Award of the Degree. The Doctor of Philosophy degree in language and communicative disorders 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 institutions.

Financial Support. Funding for graduate students cannot be guaranteed, although every effort will be made to provide students with some form of support through faculty grants, graduate teaching associateships, research assistantships, or scholarships. The program endeavors to provide financial support that will enable all students to devote full time to study and research training. Financial support will be awarded consistent with the policies of the Divisions of Graduate Affairs at each campus. Tuition and fees will be determined in accord with extant policies at the campus in which the student is matriculated in a given year.

Credential

The School of Speech, Language, and Hearing Sciences offers academic and practica coursework applicable to the Speech Language Pathology (SLP) Credential (Credential Code: 00900), required for working in California public schools.

Applicants to a credential program are required to submit scores from the California Basic Education Skills Test (CBEST) as part of the application for admission to a credential program. Note that the CBEST is given only three or four times each year.

Credential candidates are required to have the Certificate of Clearance (finger printing) prior to beginning the school experience. Candidates should apply for the Certificate of Clearance several months prior to submitting an application to the department for school practicum placement in order for the certificate to be processed in time for the placement.

Speech Language Pathology (SLP) Credential in Language, Speech, and Hearing (Credential Code: 00900)

Students desiring to work with pupils with speech-language and hearing impairments on an itinerant or pull-out basis must complete the Speech Language Pathology (SLP) Credential in Language, Speech, and Hearing (LSH). A master’s degree in speech, language, and hearing sciences is required of all candidates graduating with a SLP credential. Candidates for SLP credential in Language, Speech, and Hearing (LSH) must complete the requirements for the Certificate of Clinical Competence (CCC) from the American Speech-Language Hearing Association and the requirements of California licensure in Language and Speech. See sections on Certificates and Licensure.

Admission Requirements

1. Formal application to San Diego State University and to the School of Speech, Language, and Hearing Sciences. All applicants for the credential must satisfy the admission requirements of the university and of the school for classified graduate standing and be recommended by the school for admission to the credential program.
2. California Basic Education Skills Test (CBEST) results.
3. Interview with the coordinator of the Language, Speech and Hearing credential.

Program Requirements

1. The credential program requires a master's degree in Speech-Language Pathology.
2. The following courses are also required: Speech, Language, and Hearing Sciences 525, 546 (or transcript credit in an equivalent course), 618A and/or 619, 619B, 626A, 626B, 626C, 627, 629, 630, 933.
3. The program of professional preparation for the SLP Credential in Language, Speech, and Hearing requires a minimum of 75 semester credit hours, including a minimum of 27 semester credit hours in basic science coursework and at least 300 semester credit hours in professional coursework. At least 30 of the 36 semester credit hours must be in courses for which graduate credit is received, and at least 21 of the 30 graduate semester credit hours must be in the professional area for which the credential is sought. The candidate must complete a minimum of 25 supervised observation hours and 350 clinical contact hours including 50 clock hours in each of three types of clinical setting. This credential also requires that a minimum of 100 clock hours be completed in the school setting. See the section on Certificates and the Credential Coordinator for additional information.

Certificates and Licensure

Preparation Leading to the Certificate of Clinical Competence in Speech-Language Pathology and Audiology by the Council on Academic Accreditation in Audiology and Speech-Language Pathology

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 Council on Academic Accreditation in Audiology and Speech-Language Pathology. The certificate requires a professional doctorate in audiology (see Audiology) and a master’s degree in speech-language pathology, and 75 semester units (at least 27 of the 75 semester units must be in basic science coursework, and at least 36 of the 75 semester units must be in professional coursework). At least 30 of the 36 professional coursework units must be in courses for which graduate credit was received. A minimum of 21 of the 30 units must be completed at the graduate level in the professional area for which the certificate is sought. The certificate requires 375 clock hours of supervised clinical observation (250 hours) and clinical practicum (350 hours), and at least 250 or the 350 clock hours must be in the professional area for which the certificate is sought while the applicant is engaged in graduate study. Clock hours must satisfy designated categories for age span, types of disorders, assessment and intervention. The applicant must pass a national examination in the area for which the certificate is sought and complete a Clinical Fellowship (following approval of academic coursework and clinical practica). Consult an adviser in the area in which certificate is desired.

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 and some public school settings. The Speech Pathology and Audiology Examining Committee which operates within the California State Board of Medical Quality Assurance requires a master’s degree or equivalent in speech, language, and hearing sciences in the area (Speech Pathology or Audiology) in which the license is to be granted. 300 clock hours of supervised clinical experience, a national examination, and nine months of full-time supervised work experience (Required Professional Experience). Most Licensure and ASHA Certification requirements may be fulfilled concurrently. Consult an adviser in the area in which licensure is desired for specific information.
Bilingual Speech-Language Pathology Certificate
(SIMS Code: 550170)

The Certificate in Bilingual Speech-Language Pathology is designed for students who plan to work with bilingual speakers with communicative disorders. To be a candidate for the certificate, a student must be seeking the master’s degree program in speech-language pathology since the certificate is coordinated with these endeavors. The certificate program requires completion of 13 units to include nine units of substantive coursework and four units of graduate clinical practicum with bilingual speakers with communicative disorders. Based on research and clinical expertise of the faculty, as well as the availability of a clinical population, the certificate is currently focused on Spanish-English communicative disorders. The following core courses are required: Speech, Language, and Hearing Sciences 672, 673, 794. In addition, students must complete 100 hours of graduate clinical practicum in the target language(s). Candidates seeking admission to the certificate program must pass a Spanish proficiency test and satisfy admission requirements to the school as listed in the Graduate Bulletin. Students who speak languages for which clinical training is not available (i.e., languages other than Spanish) are encouraged to apply to the specialization in bilingualism within the concentration in speech-language pathology.

Courses Acceptable for Master’s and Doctoral Degree Programs in Speech, Language, and Hearing Sciences (SLHS)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

SLHS 503. Advanced Speech Physiology (3)
Prerequisites: Speech, Language, and Hearing Sciences 320 and 321.
Methodology used to evaluate speech physiology in normal and disordered populations. Discussion of characteristics and etiologies of various speech disorders.

SLHS 511. Aural Rehabilitation (3)
Theoretical, methodological, and technical issues related to facilitating receptive and expressive communication in individuals who are deaf or hard-of-hearing. Emphasizes multidisciplinary case management of children.

SLHS 512. Phonological Acquisition and Disorders (3)
Prerequisites: Speech, Language, and Hearing Sciences 320 with a grade of C (2.0) or better. Proof of completion of prerequisite required: Copy of transcript.
Phonology, phonological development, and phonological disorders as they relate to basic linguistic theory. Concepts considered through critical thinking and problem-solving.

SLHS 513. Foundations of Speech-Language Development (4)
Prerequisites: Speech, Language, and Hearing Sciences 320, 321, and credit or concurrent registration in Speech, Language, and Hearing Sciences 300.
Speech-language development as related to theories of language acquisition, development, and clinical practice in children from birth to school-age.

SLHS 514. Foundations of Speech-Language: Differences and Disorders in Children (3)
Prerequisite: Speech, Language, and Hearing Sciences 513.
Speech and language disorders and issues related to assessment of and intervention with children from culturally and linguistically diverse populations.

SLHS 521. Speech-Language Screening of Children (1) Cr/NC
Three hours of laboratory. Prerequisite: Clinic clearance.
Screening speech and language of children in various community facilities and settings.

SLHS 525. Clinical Processes (1-2) Cr/NC
Prerequisite: Consent of instructor.
Clinical issues, policies, and methods in speech-language pathology. Experience in writing lesson plans and clinical reports. Clinical observation to partially fulfill requirements for certification. Maximum credit five units.

SLHS 539. Neuroanatomy and Disorders of Speech and Language (3)
Three hours of laboratory screening per week. Prerequisites: Speech, Language, and Hearing Sciences 150, 300, 305, and 321.
Structural and functional neuroanatomy and disorders of speech and language resulting from pathology of the nervous system.

SLHS 546. Clinical Issues in Aural Rehabilitation (2)
Prerequisite: Consent of instructor.
Theoretical, methodological, and technical issues related to the speech-language pathologist’s role in facilitating communication in individuals who are deaf or hard-of-hearing.

SLHS 570. Dysphagia (4)
Prerequisite: Consent of instructor.

SLHS 580. Communication Processes and Aging (3)
Prerequisite: Twelve upper division units in an appropriate major.
Normal and disordered communication processes in the aging.

SLHS 590. Seminar in Research Foundations of Speech, Language, and Hearing Sciences (3)
Prerequisites: Consent of instructor and a grade of B+ (3.3) or better in Speech, Language, and Hearing Sciences 305, 320, 513. Open only to senior speech, language, and hearing sciences majors. Graduate students may not use this course toward program of study.
Specialized study of selected topics in speech, language, and hearing sciences.

SLHS 595. Research Practicum (1-3)
Prerequisites: Consent of instructor and approval of school chair. Participation in a specific research activity under faculty supervision. Maximum combined credit of six units of Speech, Language, and Hearing Sciences 595 and 795.

SLHS 596. Selected Topics in Speech, Language, and Hearing Sciences (1-4)
Prerequisites: Twelve units in speech, language, and hearing sciences courses.
Specialized study of selected topics from the area of speech-language pathology, audiology, education of the hearing impaired, and speech and hearing science. 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. Credit for 596 and 696 applicable to a master’s degree with approval of the graduate adviser.
GRADUATE COURSES

SLHS 600A. Research Methods in Communication Sciences and Disorders (1)
Prerequisite: Admission to the M.A. program in speech, language, and hearing sciences.
Methods of investigation in communication sciences and disorders to include research design, basic statistics, principles of evidence-based practice, ethical conduct in research design and work with human participants. (Speech, Language, and Hearing Sciences 600A, 600B formerly numbered Speech, Language, and Hearing Sciences 600.)

SLHS 600B. Advanced Research Methods in Communication Sciences and Disorders (2)
Prerequisite: Speech, Language, and Hearing Sciences 600A.
Principles of evidence-based practice, single-subject design, statistics for single-subject design, statistics used in longitudinal research and scale development; regression and factor analysis. (Speech, Language, and Hearing Sciences 600A, 600B formerly numbered Speech, Language, and Hearing Sciences 600.)

SLHS 606. Voice, Resonance, and Fluency Disorders (3)
Prerequisite: Consent of instructor.
Normal voice, resonance, and fluency, symptoms and causes of voice, resonance, and fluency disorders and their assessment and management.

SLHS 607. Phonology and Phonological Disorders (3)
Prerequisite: Consent of instructor.
Characterization of phonological disorders, assessment frameworks, intervention strategies. Theoretical frameworks of phonology as applied to and experimentally evaluated in speech-language pathology. Methodology considered within context of clinical cases studies designed to facilitate critical thinking and problem-solving.

SLHS 608. Acquired Neuromotor Speech Disorders (3)
Prerequisite: Consent of instructor.
Theories and clinical methods of diagnosis and intervention pertaining to motor speech disorders (dysarthria and apraxia of speech) in adults.

SLHS 609A. Acquired Neurogenic Language and Cognitive Disorders I (3)
Prerequisite: Consent of instructor.
Theories and clinical methods of diagnosis and intervention pertaining to language and communication disorders in adults with left or right hemisphere brain damage.

SLHS 609B. Acquired Neurogenic Language and Cognitive Disorders II (3)
Prerequisite: Speech, Language, and Hearing Sciences 609A.
Theories and clinical methods of diagnosis and intervention pertaining to cognitive and linguistic disorders in adolescents and adults with traumatic brain injury, dementia or frontal lobe impairments.

SLHS 613. Language Disorders: Infancy Through Preschool (3)
Prerequisite: Consent of instructor.
Major theories of language development with focus on early language development; effect of theoretical perspective on approaches to assessment and intervention; development and evaluation of assessment and intervention procedures and instruments.

SLHS 614. Language Disorders: School Age Through Adolescence (3)
Prerequisite: Consent of instructor.
Normal and impaired language development in children five years through adolescence. Assessment and intervention for language disorders across spoken and written modalities.

SLHS 617. Diagnostic Methods in Speech-Language Pathology (3)
Prerequisite: Consent of instructor.
Principles and procedures for culturally relevant assessment of communication disorders in children and adults. Ethnographic interviewing; formal, informal, and unbiased testing; clinical reporting. Practice with selected methods and tools.

SLHS 618A. Diagnostic Practicum in Speech-Language Pathology: Pediatrics (1)
Four hours of supervision.
Prerequisites: Speech, Language, and Hearing Sciences 600A, 600B, 607, 613, 617, and two units of 525.
Supervised clinical practice in diagnostic methods with pediatric clients. Maximum credit six units.

SLHS 618B. Diagnostic Practicum in Speech-Language Pathology: Adults (1)
Four hours of supervision.
Prerequisites: Speech, Language, and Hearing Sciences 600A, 600B, 607, 613, 617, and two units of 525.
Supervised clinical practice in diagnostic methods with adult clients. Maximum credit six units.

SLHS 619. Multidisciplinary Diagnostic Practicum in Speech-Language Pathology (1)
Four hours of supervision.
Prerequisite: Consent of instructor.
Participation in multidisciplinary assessment of infants and toddlers.

SLHS 626A. Pediatric Speech-Language Pathology (0.5)
Two hours of supervision.
Prerequisites: Speech, Language, and Hearing Sciences 600A, 600B, 607, 613, 617, and two units of 525.
Supervised intervention practica with children. Up to two hours per week of client contact plus staffing. Up to three units may be taken concurrently. Maximum credit nine units.

SLHS 626B. Neurogenic Speech-Language Intervention (0.5)
Two hours of supervision.
Prerequisites: Speech, Language, and Hearing Sciences 600A, 600B, 607, 613, 617, and two units of 525.
Supervised intervention practica with adults with neurogenic communication disorders. Up to two hours per week of client contact plus staffing. Up to three units may be taken concurrently. Maximum credit nine units.

SLHS 626C. Voice/Fluency/Dysphagia Clinical Intervention (0.5)
Two hours of supervision.
Prerequisites: Speech, Language, and Hearing Sciences 600A, 600B, 607, 613, 617, and two units of 525.
Supervised intervention practica with voice, fluency, and/or swallowing disorders. Up to two hours per week of client contact plus staffing. Up to three units may be taken concurrently. Maximum credit nine units.

SLHS 627. Advanced Field Clinical Practice in Speech-Language Pathology and Audiology (1-3) Cr/NC
Two hours of therapy, one hour of staffing, and Grand Rounds attendance once per month.
Prerequisite: Consent of instructor.
Supervised practice with speech-language-hearing problems in off-campus settings. Up to 10 hours per week of client contact plus staffing. Up to three units may be taken concurrently. Maximum credit nine units.

SLHS 629. Professional Skills in Speech-Language Pathology I (1)
Prerequisite: Concurrent registration in Speech, Language, and Hearing Sciences 627.
Development of professional skills to include client advocacy, ethical and legal decision-making, interpersonal skills for team collaboration, and knowledge of professional policies and procedures. Maximum credit three units.

SLHS 630. Professional Skills in Speech-Language Pathology II (1)
Prerequisites: Speech, Language, and Hearing Sciences 617.
Minimum of 100 hours of supervised clinical practicum and departmental approval. Concurrent registration in Speech, Language, and Hearing Sciences 933.
Development of professional skills necessary for working successfully in off-campus settings to include caseload management, conflict resolution, professional credentialing requirements, and supervision/leadership skills. (Formerly numbered Speech, Language, and Hearing Sciences 929.)
SLHS 672. Seminar in Communicative Disorders in Bilingual Adults (3)
Prerequisites: Speech, Language, and Hearing Sciences 600 and 609A.
Linguistic and cognitive system in normal bilingual adults compared to monolingual peers, and in bilingual adults with language disorders. Assessment and intervention strategies in bilingual adults' communicative and cognitive disorders. Cross-cultural issues in selection of assessment and intervention procedures.

SLHS 673. Seminar in Communicative Disorders in Bilingual Spanish-English Children (3)

SLHS 675. Augmentative Communication (2)
Prerequisite: Consent of instructor.
Alternative and augmentative approaches, strategies and technology for individuals with severe communication impairments. Assessment and intervention. Project required.

SLHS 696. Selected Topics in Speech, Language, and Hearing 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

SLHS 707. Seminar in Phonological Acquisition (3)
Prerequisite: Consent of instructor.
Theoretical, empirical, methodological, and applied issues associated with phonological acquisition of first-language learners, children with speech disorders, and second-language learners.

SLHS 750. Seminar in Language, Cognition, and the Brain: Sign Language Perspectives (3)
Prerequisite: Consent of instructor.
Sign language and deafness research applied to theoretical models of language representation and processing, language acquisition, bilingualism, and the neural organization of language.

SLHS 790. Seminar in Foundations of Language Science (3)
Prerequisite: Consent of instructor.
Current issues, theory, and research concerning language representation, processing, and neurological organization in adults.

SLHS 793. Seminar in Disorders of Language and Cognition/Children (3)
Prerequisite: Consent of instructor.
Language impairment in children, including primary versus secondary language impairment, modular versus processing explanations, relationships between language and cognition, as well as disassociations of development across different populations.

SLHS 794. Seminar in Language Disorders in Multilingual Populations (3)
Prerequisite: Consent of instructor.
Language disorders in linguistically diverse populations. Disorders of phonological, morphological, syntactic, and semantic aspects of target languages and their clinical implications.

SLHS 795. Advanced Research Practicum (3)
Prerequisites: Consent of instructor and approval of director of school.
Participation in a specific research activity under faculty supervision. Maximum combined credit of six units of Speech, Language, and Hearing Sciences 595 and 795.

SLHS 797. Research (1-3) Cr/NC/RP
Prerequisites: Consent of instructor and approval of director of school. Research in speech-language pathology, deaf education or audiology. Maximum credit six units applicable to a master's degree.

SLHS 798. Special Study (1-3) Cr/NC/RP
Prerequisites: Consent of instructor and approval of director of school. Individual study. Maximum credit six units applicable to a master's degree.

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

SLHS 799B. Thesis or Project Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis or Project 799A with an assigned grade symbol of RP. Registration required in any semester or term following assignment of RP 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.

SLHS 799C. Comprehensive Examination Extension (0) Cr/NC
Prerequisite: Completion or concurrent enrollment in degree program courses. Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree Registration in 799C limited to two semesters.

DOCTORAL COURSES

SLHS 897. Doctoral Research (1-15) Cr/NC/RP
Prerequisite: Admission to the doctoral program. Individual investigation to the general field of the dissertation.

SLHS 898. Doctoral Special Study (1-8) Cr/NC/RP
Prerequisite: Admission to the doctoral program. Individual study in the field of specialization. Maximum credit eight units applicable to the doctoral degree.

SLHS 899. Doctoral Dissertation (1-15) Cr/NC/RP
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.

CREDENTIAL COURSE

SLHS 933. Clinical Practice in Public Schools (1-4) Cr/NC
Prerequisites: Credit or concurrent registration in Speech, Language, and Hearing Sciences 929; four units of practica; post-baccalaureate standing; California Basic Education Skills Test; Certificate of Clearance; school approval. Clinical practice in elementary or secondary schools or community colleges in speech-language pathology. Applies only toward Clinical-Rehabilitative Services Credential (C-RS) or Certificate of Clinical Competency in Speech-Language Pathology (ASHA).
Statistics
In the Department of Mathematics and Statistics
In the College of Sciences

OFFICE: Geology/Mathematics/Computer Science 413
TELEPHONE: 619-594-6191

Faculty
Michael E. O’Sullivan, Ph.D., Professor of Mathematics,
Chair of Department
Chi-Dean Lin, Ph.D., Associate Professor of Statistics,
Associate Chair of Department
Juanjuan Fan, Ph.D., Professor of Statistics
Richard A. Levine, Ph.D., Professor of Statistics
Kung-Jong Lui, Ph.D., Professor of Statistics
Barbara Ann Bailey, Ph.D., Associate Professor of Statistics
Jianwei Chen, Ph.D., Associate Professor of Statistics
(Statistics Programs Adviser)
Jorge Carlos Román, Ph.D., Assistant Professor of Statistics

Associateships
Graduate teaching associateships in statistics and biostatistics are available and are awarded on a competitive basis by the Department of Mathematics and Statistics. Application forms and additional information may be secured from the office of the Department of Mathematics and Statistics.

General Information
The Department of Mathematics and Statistics offers graduate study leading to the Master of Science degree in statistics. Students may pursue either the general degree or a concentration in biostatistics that emphasizes statistical methods and applications in the biological, health, and medical sciences.

Statisticians and biostatisticians are engaged in the acquisition and use of knowledge through the collection, analysis, and interpretation of data. Today, almost all disciplines – from economics to engineering, from social science to medicine – employ statistical methods. Such methods are essential in studying relationships, predicting results, and making informed decisions in many different contexts. This diversity of application of this field has stimulated the current demand for well-trained statisticians and biostatisticians at all degree levels.

The Master of Science degree provides advanced training, with emphasis on statistical methodology, and prepares students for careers in industry and government as applied statisticians or biostatisticians, or for entry into a doctoral program in statistics or biostatistics.

As part of the degree requirements, graduate students conduct theses or research projects under the guidance of faculty with active research interests in most general areas of probability, statistics, and biostatistics. These research areas include biostatistical methods, survival analysis, mathematical demography, data analysis, inference, stochastic processes, time series, Bayesian statistics, categorical data analysis, statistical computing, nonparametric statistics, sample surveys, multivariate analysis, linear models, experimental design, and clinical trials.

The graduate programs can prepare students for a teaching career.

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 Four of this bulletin.

Specific Requirements for the Master of Science Degree in Statistics
(Major Code: 17021) (SIMS Code: 776369)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master’s degree as described in Part Four of this bulletin, the students must meet the following program requirements:

1. Complete Statistics 510, 670A, 670B with no grade less than B in each course. These are core statistics courses.
2. Complete nine units of courses in statistics and biostatistics, selected from the following with the approval of the graduate adviser in statistics: Statistics 672, 673, 676, 677, 678, 680A, 680B, 696, 700, 701, 702, 795.
3. Complete three additional units of graduate level or approved 500-level statistics courses, not including Statistics 799A.
4. Complete three additional units of graduate level or approved 500-level statistics courses, not including Statistics 799A.
5. Complete three units of approved electives.
7. The thesis option (Plan A) requires approval of the graduate adviser and the statistics division faculty member who will chair the thesis committee. Students who choose Plan A must include Statistics 799A in the 31-unit program and are required to pass a final oral examination on the thesis, open to the public.
8. In other cases, Plan B will be followed. Students who choose Plan B are required to complete three additional units of 600- and 700-numbered statistics courses, not including Statistics 799A, and pass a comprehensive written examination. Policy and procedures for the Plan B examination are documented and available from the Department of Mathematics and Statistics.

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Specific Requirements for the Master of Science Degree in Statistics with Concentration in Biostatistics

(Major Code: 17021) (SIMS Code: 776370)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master’s degree as described in Part Four of this bulletin, the student must meet the following program requirements:

The student should have completed before entering the program the following undergraduate coursework: three semesters of calculus, one semester of linear algebra, and one semester of probability theory. The student should also have working knowledge of a programming language before entering the program. Students lacking some of the above undergraduate coursework may be admitted conditionally and may make up this coursework during the first year of the program (these courses will not be counted toward the degree course requirements).

The student must complete a minimum of 31 units of coursework as described below. Upon entry to the program, the student will be assigned to a graduate adviser in biostatistics. Thereafter, the adviser will meet with the student each semester and discuss his or her academic program. A program of study must be approved by the graduate adviser in biostatistics.

1. Complete Statistics 510, 670A, 670B with no grade less than B in each course. These are core statistics courses.
2. Complete Statistics 680A, 680B with no grade less than B in each course. These are biostatistics concentration courses.
3. Complete at least six units of courses in biostatistics and statistics, selected from the following with the approval of the graduate adviser in biostatistics: Statistics 520, 560, 580, 596, 672, 673, 676, 677, 678, 696, 700, 701, 702, 795.
4. Complete at least six units of 500-level or graduate courses from a science of application of biostatistics (e.g., bioscience, health science, or medical science), selected with the approval of the graduate adviser in biostatistics. If the student has an undergraduate degree in an area of application of biostatistics, 500-level or graduate mathematical sciences courses may be substituted with the approval of the graduate adviser in biostatistics.
5. Complete one unit of Statistics 720.
6. With approval of the graduate adviser and the faculty member who will chair the thesis committee, the student may choose Plan A and complete three units of Statistics 799A. The chair of the thesis committee must be a faculty member from the division of statistics in the Department of Mathematics and Statistics. One of the other two members of the thesis committee must be a faculty member from a science of application of biostatistics (i.e., bioscience, health science, or medical science). The student must pass an oral defense of the thesis, open to the public.
7. In other cases, Plan B will be followed. Students who choose Plan B are required to complete three additional units of 600- and 700-numbered statistics courses, not including Statistics 799A, and pass a comprehensive written examination. Policy and procedures for the Plan B examination are documented and available from the Department of Mathematics and Statistics.

Courses Acceptable for Master’s Degree Programs in Statistics (STAT)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

NOTE: Proof of completion of prerequisites required for all upper division courses; Copy of transcript.

STAT 510. Applied Regression Analysis (3)
Prerequisite: Statistics 350A or comparable course in statistics.
Methods for simple and multiple regression models, model fitting, variable selection, diagnostic tools, model validation, and matrix forms for multiple regression. Applications of these methods will be illustrated with SAS, SPSS, and/or R computer software packages.

STAT 520. Applied Multivariate Analysis (3)
Prerequisite: Statistics 350B or comparable course in statistics.
Multivariate normal distribution, multivariate analysis of variance, principal components, factor analysis, discriminant function analysis, classification, and clustering. Statistical software packages will be used for data analysis.

STAT 550. Applied Probability (3)
Prerequisites: Mathematics 151 and 254.
Computation of probabilities via enumeration and simulation, discrete and continuous distributions, moments of random variables. Markov chains, counting and queuing processes, and selected topics.

STAT 551A. Probability and Mathematical Statistics (3)
Prerequisite: Mathematics 252.
Discrete and continuous random variables, probability mass functions and density functions, conditional probability and Bayes’ theorem, moments, properties of expectation and variance, joint and marginal distributions, functions of random variables, moment generating functions. Special distributions and sampling distributions.

STAT 551B. Probability and Mathematical Statistics (3)
Prerequisite: Statistics 551A.
Introduction to stochastic processes with selected topics.

STAT 556. Sample Surveys (3)
Prerequisites: Statistics 550 or 551A.
Methods for design and analysis of sample surveys with applications to social and biological sciences. Simple random sampling, stratification and clustering, ratio and regression estimators, subsampling, selected topics in survey methodology.

STAT 570. Stochastic Processes (3)
Prerequisite: Statistics 551A.
Introduction to stochastic processes with selected applications.

STAT 575. Actuarial Modeling (3)
Prerequisite: Statistics 550 or 551A.
Actuarial models and applications of probability and statistics to insurance and other financial risks. Utility theory; risk models; compound processes; survival distributions and life tables; life insurance, annuities and benefits.

STAT 580. Statistical Computing (3)
Two lectures and two hours of activity.
Prerequisite: Statistics 551B.
Machine computation in development, application, and evaluation of advanced statistical techniques. Floating arithmetic and algorithm stability; numerical methods for parameter estimation (including maximum likelihood) and multivariate probability integration; simulation and other computer-intensive statistical techniques.

STAT 596. Advanced Topics in Statistics (1-4)
Prerequisite: Consent of instructor.
Selected topics in statistics. May be repeated with the approval of the instructor. See Class Schedule for specific content. Limit of nine units of any combination of 496, 596, 598 courses applicable to a bachelor’s degree. Maximum credit of six units of 596 applicable to a bachelor’s degree. Credit for 596 and 696 applicable to a master’s degree with approval of the graduate adviser.
GRADUATE COURSES

STAT 670A-670B. Advanced Mathematical Statistics (3-3)  
Prerequisites: Statistics 551A. Statistics 670A is prerequisite to 670B.  
Distribution of random variables, characteristic functions,  
limiting distributions, sampling distributions, hypothesis testing  
and estimation, optimality considerations, applications of the linear  
hypothesis, invariance and unbiasedness to analysis of variance and  
regression problems, sequential techniques, decision theory.  

STAT 672. Nonparametric Statistics (3)  
Prerequisite: Statistics 551B or 670B.  
Theory and application of commonly used distribution-free test  
statistics, including sign and Wilcoxon tests, and corresponding  
nonparametric point and interval estimators. Kruskal-Wallis and  
Friedman tests for analysis of variance, nonparametric regression  
methods, and other selected topics.  

STAT 673. Time Series Analysis (3)  
Prerequisite: Statistics 551B or 670B.  
Box-Jenkins (ARIMA) methodology for analysis of time series  
data with statistical software applications. Autocorrection functions,  
stationary and nonstationary time series, autoregressive and moving  
average processes, seasonality. Methods for model-based estimation,  
diagnostics, and forecasting.  

STAT 676. Bayesian Statistics (3)  
Prerequisite: Statistics 551B or 670B.  
Bayes’ theorem; conjugate priors; likelihood principle; posterior  
probability intervals; Bayes factors; prior elicitation, reference  
priors; computational techniques; hierarchical models; empirical  
and approximate Bayesian inference; posterior sensitivity analysis;  
decision theory.  

STAT 677. Design of Experiments (3)  
Prerequisite: Statistics 550 or 551A.  
Methods for design and analysis of experiments with applications  
to industry, agriculture, and medicine. Concepts of randomization,  
blocking, and replication. Incomplete block designs, fractional  
factorial experiments, response surface methods, selected topics.  

STAT 678. Survival Analysis (3)  
Prerequisite: Statistics 551B or 670B.  
Survival distributions; inference in parametric survival models;  
life tables; proportional hazards model; time-dependent covariates;  
accelerated time model and inference based on ranks; multivariate  
time data and competing risks.  

STAT 680A-680B. Advanced Biostatistical Methods (3-3)  
Prerequisites: Statistics 551A. Statistics 680A is prerequisite to 680B.  
Design, conduct, and analysis of experimental and observational  
studies including cohort, survival, case-control studies. Multifactor  
screening. Biological assays.  

STAT 686. Selected Topics in Statistics (3)  
Prerequisite: Graduate Standing.  
Intensive study in specific areas of statistics. May be repeated  
with new content. See Class Schedule for specific content. Credit for  
596 and 696 applicable to a master’s degree with approval of the  
graduate adviser.  

STAT 700. Data Analysis Methods (3)  
Prerequisites: Statistics 510 and 551B or 670B.  
Computationally intensive data analysis techniques including  
random and mixed effects models, repeated measures and longitudi-  
dlinal data analysis, generalized linear models, nonlinear models, and  
multilevel models.  

STAT 701. Monte Carlo Statistical Methods (3)  
Prerequisite: Statistics 551B or 670B.  
Monte Carlo and simulation intensive methods for development  
and application of statistical methods such as Monte Carlo and  
Markov chain Monte Carlo algorithms and inferential procedures;  
stochastic optimization, EM algorithm, and variants for parameter  
estimation, importance sampling, variance reduction techniques.  

STAT 702. Data Mining Statistical Methods (3)  
Prerequisite: Statistics 551B or 670B.  
Principles and algorithms of data mining techniques such as  
decision trees and rules for classification and regression, clustering,  
and association analysis.  

STAT 720. Seminar (1-3)  
Prerequisite: Consent of instructor.  
An intensive study in advanced statistics. May be repeated with  
new content. See Class Schedule for specific content. Maximum  
credit six units applicable to a master’s degree.  

STAT 790. Practicum in Teaching of Statistics (1) Cr/NC  
Prerequisite: Award of graduate teaching associateship in  
statistics.  
Supervision in teaching statistics. Lecture writing, style of lecture  
presentation and alternatives, test and syllabus construction, and  
grading system. Not applicable to an advanced degree. Required  
for first semester GTA’s. Maximum credit four units applicable to  
a master’s degree.  

STAT 795. Practicum in Statistical Consulting (3) Cr/NC  
Prerequisite: Statistics 670B.  
Statistical communication and problem solving. Short-term  
consulting to campus clients in design and analysis of experiments,  
surveys, and observational studies. Heuristics for effective problem  
identification, client interactions, oral and written presentations.  

STAT 797. Research (1-3) Cr/NC/RP  
Prerequisites: Six units of graduate level statistics.  
Research in one of the fields of statistics. Maximum credit six units  
applicable to a master’s degree.  

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

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

STAT 799B. Thesis Extension (0) Cr/NC  
Prerequisite: Prior registration in Thesis 799A with an assigned  
grade symbol of RP.  
Registration required in any semester or term following assignment  
of RP 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.  

STAT 799C. Comprehensive Examination Extension (0) Cr/NC  
Prerequisite: Completion or concurrent enrollment in degree  
program courses.  
Registration required of students whose only requirement is  
completion of the comprehensive examination for the master’s degree  
Registration in 799C limited to two semesters.  

Teacher Education  
Refer to “Education” in this section of the bulletin.
Television, Film and New Media Production
In the School of Theatre, Television, and Film
In the College of Professional Studies and Fine Arts

OFFICE: Dramatic Arts 201
TELEPHONE: 619-594-5091 / FAX: 619-594-1391
http://ttf.sdsu.edu

Faculty
Donald J. Hopkins, Ph.D., Professor of Theatre, Television, and Film,
Director of School
Gregory C. Durbin, M.F.A., Professor of Theatre, Television, and Film
(Area Head of Television and Film Program)
Mark W. Freeman, M.F.A., Professor of Theatre, Television, and Film
Martha M. Lauzen, Ph.D., Professor of Theatre, Television, and Film,
David A. Morong, M.F.A., Professor of Theatre, Television, and Film
(Graduate Adviser for Television and Film Program)
Timothy A. Powell, Ph.D., Professor of Theatre, Television, and Film
Aurorae Khoo, M.F.A., Assistant Professor of Theatre, Television,
and Film

Associateships and Assistantships
Graduate teaching associateships and graduate assistantships are
available to a limited number of qualified students. Application
forms and further information may be obtained from the school.

General Information
The School of Theatre, Television, and Film offers graduate study
leading to the Master of Fine Arts in film and television production. This degree prepares students for careers in creative areas of media
design and production.

Master of Fine Arts Degree in Film
and Television Production
The School of Theatre, Television, and Film, in the College of
Professional Studies and Fine Arts, offers graduate study leading to
the Master of Fine Arts degree in film and television production. This degree stresses hands-on creative endeavors. It is especially useful for
those pursuing careers in film, television, radio, or related production
activities where a sophisticated and disciplined ability to conceive,
initiate, and complete original media is required. Graduates of this
program gain the essential education, technical training, and creative
expertise in a wide range of emerging communication technologies. The Master of Fine Arts degree in film and television production
emphasizes advanced media design and production. Admission to
this degree program requires undergraduate preparation, documented
through submission of a portfolio reel of previous creative activity
or other evidence of relevant creative activity. Postbaccalaureate
students who are without previous media production education or
experience and who wish to learn television and film production should
consider pursuing a second bachelor's degree in media production or
completing basic production courses elsewhere before enrolling in
graduate study at San Diego State University.

Teaching facilities in the School of Theatre, Television, and Film
include a large state-of-the-art television studio, digital editing
suites, Foley room, animation suite, scene shop and an equipment
checkout center stocked with film and digital cameras and recording
equipment, lighting, and grip equipment. Major public broadcasting
stations, KPBS-TV and KPBS-FM, are located on campus and offer
internship opportunities. The university operates a campuswide,
closed-circuit, instructional television service and Multimedia Center,
and is also home to the International Center for Communications and a
student-operated radio station. San Diego offers abundant internship
opportunities in production companies and television and radio
stations, such as the leading cable carrier, Cox Communications.

Admission to Graduate Study
Students will be admitted for the fall semester only. Application
packages must be received and complete by the previous March 1.
In addition to meeting the general requirements for admission to
the university with classified graduate standing, as outlined in Part
Two of this bulletin, students applying for admission to the Master
of Fine Arts degree in film and television production are evaluated
according to the following criteria:

1. Undergraduate major or minor in television, film, or a
related communication discipline. Those lacking adequate
undergraduate preparation or equivalent professional
experience for the program should consider enrolling in media
courses at community colleges or in intensive craft training
programs before applying to the program.

2. Minimum grade point average of 3.0 (when A equals 4.0) in the
last 60 semester (90 quarter) units attempted (this calculation
may not include lower division courses taken after award of a
baccalaureate degree).

3. The Graduate Record Examination (GRE) is required of all
applicants; however, in some cases it may be waived. The
waiver may be granted for an applicant who, at the time of
application, (a) earned a bachelor's degree at a U.S. institution
with a final GPA of at least 3.0, or (b) has a bachelor's degree in
progress at a U.S. institution and current GPA is at least 3.25.
Applicants who meet either criteria will be granted the waiver
when an official transcript has been provided and reviewed by
the department and Graduate Admissions. International
applicants and students below the target GPA must take the
GRE. Applicants taking the GRE must post a verbal score of
450 or higher; a quantitative score of 450 or higher; a
combined verbal and quantitative score of 950 or higher; and
a GRE writing assessment (GRE-W) of level 4 or higher. For
applicants deficient in the GRE quantitative, a score of 450 or
higher on the GRE analytic may be substituted.

4. All graduate and post-baccalaureate applicants, regardless of
citizenship, whose native language is not English and
whose preparatory education was principally in a language
other than English must demonstrate competence in English.
Those applicants who do not possess a bachelor's degree from a
postsecondary institution where English is the principal
language of instruction must submit official TOEFL or IELTS
results. The minimum TOEFL required score for admission
is 80 for the iBT test or 550 for the PBT test. The minimum
required IELTS score for admission is 6.5. Please note scores
must be recent; within the past two years.

5. Students who have received a M.A. degree in film, television
and new media production from SDSU within the past six years
may apply for this degree and transfer up to 24 credits from
the M.A. degree toward this M.F.A. Applicants holding a M.A.
or pursuing a M.F.A. from an acceptable accredited institution
may transfer up to 18 units upon review and recommendation
by the graduate adviser and with approval of the dean of the
Division of Graduate Affairs.
Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.

All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the School of Theatre, Television, and Film.

**Graduate Admissions**

The following materials should be submitted together directly to:

Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

1. Official transcripts (in sealed envelopes) from all postsecondary institutions attended;

   **NOTE:**
   - Students who attended SDSU need only submit transcripts for work completed since last attendance.
   - Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

2. GRE scores (http://www.ets.org SDSU institution code 4682);

3. Evidence the applicant can provide creativity relevant to the medium.

   - Prerequisite: Television, Film and New Media 551.

   - Evidence the applicant can provide creativity relevant to media productivity, technical skill level, and command of the medium. Generally, a sample reel is the most useful. The sample reel may be uploaded to DecisionDesk, delivered by link to a website such as Vimeo or YouTube, or sent directly to the department on a USB flash drive. Detailed instructions are provided on DecisionDesk. Include work in which applicant held a key creative role (writer/director, cinematographer, editor, sound designer, production designer). Credits must be clearly indicated. Even though long work may be submitted, no more than 10 minutes of the work provided will be viewed, so cue, or specify appropriate cueing, of sample. In lieu of a sample reel, other examples might include a sample of original textual work (play, story, or screenplay for writers/directors) or visual material (drawings, storyboards, designs, or studio photography that may reflect lighting, framing, or composition skills);

4. A list, by author and title, of six books (essays, novels, plays) that have influenced applicant artistically;

5. A list of three films (documentaries, experimental, narratives,)

   - Prerequisite: Television, Film and New Media 314 (or consent of instructor).

   - Plays or television programs that applicant admires, devoting one paragraph to each work;

6. A list and description (in a sentence) of applicant's hobbies and interests outside of film, theatre, and video;

7. Personal Statement: A short essay describing your creative and career goals and how you think this program will benefit you. (Maximum two pages.)

   Admission to the program is competitive, and satisfying these requirements does not guarantee admission. The decision to admit is based on consideration of the entire application file; promising applicants in unusual circumstances are encouraged to apply.

Students accepted for graduate study in the Master of Fine Arts degree in film and television production are initially admitted with conditional graduate standing (classified). Full classified standing is awarded only after the student has completed Television, Film and New Media 605 with a grade of B or better.

**Advancement to Candidacy**

In addition to meeting the general requirements for advancement to candidacy described in Part Four of this bulletin, students seeking the Master of Fine Arts in film, and television production must complete Television, Film and New Media 670 with a grade of B or better prior to advancement.

**Specific Requirements for the Master of Fine Arts Degree**

(Major Code: 10102) (SIMS Code: 667309)

Candidates for the Master of Fine Arts degree in film and television production must complete 54 units of coursework to include the following:

1. Fifteen units of core preparation courses comprised of Television, Film and New Media 601, 605, 610, 625, and 670.

2. Six units of production electives selected from Television, Film and New Media 522, 540, 621, 627, and 662.

3. Nine units of critical studies courses comprised of Television, Film and New Media 530, 563, and 571.

4. All students will take Plan B (Comprehensive Examination) and enroll in nine units of capstone project preparation to include Television, Film and New Media 675 and 790.

5. With approval of the graduate adviser, 15 additional graduate units in Television, Film and New Media, Theatre, and other departments.

6. No more than nine units of electives outside the School of Theatre, Television, and Film.

**Courses Acceptable for Master of Fine Arts Degree Program in Film and Television Production (TFM)**

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

**UPPER DIVISION COURSES**

**TFM 510. Advanced Script Writing for Television and Film (3)**

- Prerequisite: Television, Film and New Media 314 (or consent of instructor).

  - Scripting of dramatic original and adaptation forms, and documentary. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

**TFM 522. Advanced Film and Television Cinematography (3)**

Two lectures and three hours of laboratory.

- Prerequisite: Television, Film and New Media 314 (or consent of instructor).

  - Advanced theory and practice of cinematography for film and television production. Lighting for mood and character; camera movement for story telling; and new techniques in film, digital, and HD formats. Careers in the purely visual aspects of film making.

**TFM 530. Selected Topics in Genre Studies for Television and Film (3)**

- Prerequisite: Television, Film and New Media 310 and 330.

  - Open only to television, film and new media majors in upper division standing.

  - Film and television genres (noir, western, comedy, musical, science fiction, soap opera, etc.) including key media texts, aesthetics, themes, history, and social context. May be repeated with new course content. See Class Schedule for specific content. Maximum credit six units.
**TMF 540. Documentary Production (3)**
Two lectures and three or more hours of activity.
Prerequisites: Television, Film and New Media 314 and 361. Hands-on field experiences in documentary production to include research and writing techniques, investigative procedures, interviewing, shooting and editing. Analyze significant documentaries.

**TMF 550. Art Direction for Television and Film (3)**
One lecture and four hours of activity.
Prerequisites: Television, Film and New Media 350; 361 or 362 for television, film and new media majors, and Theatre 440 for theatre majors, and consent of instructor. Proof of completion of prerequisites required: Copy of transcript.
Aesthetic, technical, and practical aspects of design for television and film. Experience in scenic design, graphics, set decoration, budgeting, and scheduling.

**TMF 551. Production Design for Television and Film (3)**
Prerequisites: Television, Film and New Media 350 and credit or concurrent registration in Television, Film and New Media 401. Theory and analysis of production design concepts for television and film. Development of designs and analysis of technical requirements for fictional and nonfictional productions.

**TMF 558. Costume Design for Television and Film (3)**
Prerequisites: Theatre 452 and 530A or 530B. Advanced studies in costume design. Budgeting and departmental management, character development, design problems, materials, production, rendering layout, script breakdowns.

**TMF 559. Digital Design for Film and Stage (3)**
Prerequisite: Television, Film and New Media 350 or Theatre 440. Theories and applications of commonly used 3D modeling programs in the entertainment industry. See Class Schedule for specific content. Maximum credit six units.

**TMF 560. Advanced Film (3)**
Two lectures and more than three hours of activity.
Prerequisites: Television, Film and New Media 314 (or consent of instructor) and 362. Practicum in direction and production of dramatic and nondramatic film. Cameras, lighting, design, sound techniques, experience in university sponsored productions. Completion of a short film.

**TMF 561. Advanced Television (3)**
Two lectures and more than three hours of activity.
Prerequisite: Television, Film and New Media 314 (or consent of instructor).
Production processes and techniques to include producing, critical analysis, directing, digital cinematography, and editing of scripted projects. Experience in individual and university-sponsored productions.

**TMF 563. Documentary: History and Theory (3)**
Prerequisites: Television, Film and New Media 160 for undergraduate students. Admission to the M.A. in television, film and new media for graduate students.
Persuasive concepts, techniques, and forms in documentary film. Major historical works and their impact on society. (Formerly numbered Television, Film and New Media 462.)

**TMF 571. Selected Topics in Director Studies (3)**
Prerequisites: Television, Film and New Media 310 and 330. Open only to television, film and new media majors in upper division standing.
Historical significance of and theoretical approaches to major media directors (Welles, Hitchcock, Spielberg, etc.) including breadth of work, cultural and generic contexts, aesthetic innovation, and recurring themes. May be repeated with new content. See Class Schedule for specific topic. Maximum credit six units.

**TMF 573. Selected Topics in History of Film, TV, and Media (3)**
Prerequisites: Television, Film and New Media 310 and 330. Open only to television, film and new media majors in upper division standing.
Media history including cultural and generic developments, patterns of exhibition, technological influences, significant creative and industrial figures, commercial and social contexts. May be repeated with new content. See Class Schedule for specific topic. Maximum credit six units.

**TMF 590. Directing for Film and Television (3)**
One lecture and six hours of activity.
Prerequisite: Television, Film and New Media 314 (or consent of instructor).
Directing fundamentals and production to include script analysis, director's preparation and directing actors.

**TMF 596. Selected Topics in Television, Film and New Media (1-4)**
Prerequisite: Twelve units in television, film and new media. Specialized study of selected topics from the areas of television, film and new media. 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. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

**GRADUATE COURSES**

**TMF 601. Business Aspects of Film (3)**
Prerequisite: Graduate standing. Business aspects of independent film production to include television and Internet streaming. Culture and practices of the film industry in context of career development.

**TMF 605. Seminar: Production for Television and Film (3)**
Prerequisite: Admission to M.F.A. program. Film and television production. Lectures and production of two short media projects that link research to artistic process and familiarize students with all aspects of the television, film and new media program.

**TMF 610. Seminar in Writing for Television and Film (3)**
Prerequisite: Admission to M.F.A. program. Non-dramatic and dramatic structures as they apply to non-fiction and fiction television programs and films. Writing full length script or scenario. Maximum credit six units applicable to a master's degree.

**TMF 621. Sound Design for Film (3)**
One lecture and six or more hours of activity. Prerequisite: Graduate standing. Digital audio production for film, to include automated dialog replacement (ADR), field acquisition, Foley, mixing, sound editing, sweetening.

**TMF 625. Seminar: Writing Short Narrative and Documentary Films (3)**
Prerequisite: Classified graduate standing. Creating scripts for short narrative films and documentary productions.

**TMF 627. Film Editing and Postproduction (3)**
One lecture and six or more hours of activity. Prerequisite: Graduate standing. Theory and practice of film editing to include color grading, digital post-production workflow, sound and picture cutting.

**TMF 662. Scene-Based Film Production (3)**
One lecture and six or more hours of activity. Prerequisite: Graduate standing. Single camera techniques in production of narrative fiction to include scene construction and production roles. Crew-based location and studio production.
TFM 670. Seminar: Midway Review Production (3)
Prerequisites: Television, Film and New Media 605 and 625.
Development and completion of midway project for presentation before faculty jury. Research, presentation and analysis of related work, and creative engagement with material and subject matter to include retrospective written analysis of the work.

TFM 675. Seminar: Research and Bibliography in Media Production (3)
Prerequisites: Television, Film and New Media 670 and six units selected from Television, Film and New Media 470, 530, 563, 571, 573, and consent of instructor.
Methods of research, critical analysis, and writing in relation to creative work. (Formerly numbered Television, Film and New Media 600.)

TFM 790. Portfolio/Examination Preparation (3)
Prerequisites: Television, Film and New Media 675 with a grade of B (3.0) or better and advancement to candidacy.
Supervised preparation for portfolio review and oral defense.

TFM 798. Special Study (1-3) Cr/NC/RP
Individual study. Contract required. Arranged with graduate coordinator in area of study. Maximum credit six units applicable to a master's degree.

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

TFM 799B. Thesis or Project Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis or Project 799A with an assigned grade symbol of RP.
Following assignment of RP in Course 799A, registration in this course is required in any semester in which the student expects to use the facilities and resources of the university; also student must be registered in this course when the completed thesis or project is granted final approval.
Theatre Arts
In the School of Theatre, Television, and Film
In the College of Professional Studies and Fine Arts

OFFICE: Dramatic Arts 201
TELEPHONE: 619-594-6363 / FAX: 619-594-7431
http://ttf.sdsu.edu

Faculty
Donald J. Hopkins, Ph.D., Professor of Theatre, Television, and Film
Director of School
Denitsa D. Bliznakova, M.F.A., Professor of Theatre, Television, and Film
Ralph Funicello, B.F.A., The Don W. Powell Chair in Scene Design
Anne-Charlotte Harvey, Ph.D., Professor of Theatre, Emeritus
Paula Kalustian, M.F.A., Professor of Theatre, Television, and Film, Emeritus
Margaret C. Lariham, M.A., Professor of Theatre, Television, and Film, Emeritus
Randy S. Reinholz, M.F.A., Professor of Theatre, Television, and Film
Danielle J. Bedau, M.F.A., Associate Professor of Theatre, Television, and Film
Peter J. Cirino, M.F.A., Associate Professor of Theatre, Television, and Film
Robert S. Meffe, M.M., Associate Professor of Theatre, Television, and Film (Graduate Adviser)
Michelle Orr, Ph.D., Assistant Professor of Theatre, Television, and Film (Graduate Adviser)

Associateships and Assistantships
Graduate teaching associateships and graduate assistantships are available to a limited number of qualified students. Application forms and further information may be obtained from the school.

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 theatre department, created the trust in order to enhance theatre education at S.D.S.U. The current Don W. Powell Scene Design Chair is the nationally acclaimed designer Ralph Funicello.

General Information
The School of Theatre, Television, and Film offers graduate study leading to the Master of Arts degree and the Master of Fine Arts degree in theatre arts. Graduates in these programs learn in the artist-scholar model and are prepared for careers as practitioners and educators. The Master of Fine Arts degree is offered in the areas of acting, 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 and CADD laboratory, paint shop, wagon house, scene shop, and fully equipped costume laboratory. The theatre arts degree is accredited by the National Association of Schools of Theatre (N.A.S.T.).

Admission to Graduate Study
Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee. All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the School of Theatre, Television, and Film.

Graduate Admissions
The following materials should be submitted as a complete package directly to:

Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

(1) Official transcripts (in sealed envelopes) from all post-secondary institutions attended;
NOTE:
- Students who attended SDSU need only submit transcripts for work completed since last attendance.
- Students with international coursework must submit both the official transcript and proof of degree. If documents are in a language other than English, they must be accompanied by a certified English translation.

(2) GRE scores (http://www.ets.org SDSU institution code 4682);
(3) English language score, if medium of instruction was in a language other than English (http://www.ets.org SDSU institution code 4682).

Master of Arts Degree in Theatre Arts
The following materials should be mailed or delivered to:

School of Theatre, Television, and Film
(Attention: M. A. Program)
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-7601

(1) Three current and relevant letters of recommendation from individuals familiar with the applicant’s academic ability.

Master of Fine Arts Degree in Theatre Arts
Concentration in Acting
No students admitted to program at this time.

Master of Fine Arts Degree in Theatre Arts
Concentration in Design and Technology
The materials as outlined under Admission to the Degree Curriculum should be mailed or delivered to:

School of Theatre, Television, and Film
(Attention: Design Program)
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-7601
Master of Fine Arts Degree in Theatre Arts
Concentration in Musical Theatre

This program admits new students every other year only.

The materials as outlined under Admission to the Degree Curriculum should be mailed or delivered to:

School of Theatre, Television, and Film
(Attention: Musical Theatre Program)
San Diego State University
5500 Campanile Drive
San Diego, CA 92182-7601

Master of Arts Degree in Theatre Arts

Admission to the Degree Curriculum
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 theatre arts. The judgment will be based on (1) the applicant’s transcripts of prior academic work; (2) the applicant’s academic ability; (3) the applicant’s scores on the GRE General Test; (4) the applicant’s scores on the GRE Writing Assessment Test; and (5) an interview, when appropriate, revealing the applicant’s ability to succeed in the chosen area. Application deadline is February 1. To inquire about the program, including spring admission, contact the director of the M.A. program. Visit our website at http://ttf.sdsu.edu for current contact information.

Advancement to Candidacy
All students in the Master of Arts program must meet the general requirements for advancement to candidacy, as described in Part Four of this bulletin. In addition, students seeking the Master of Arts degree in Theatre Arts (regardless of area of specialization) are required to have completed Theatre 600, and to have removed any deficiencies assigned. It is recommended that all graduate students take Theatre 600 during their first semester.

Specific Requirements for the Master of Arts Degree
(Major Code: 10071) (SIMS Code: 662504)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master’s degree as described in Part Four of this bulletin, the student must complete a graduate program of a minimum of 30 units to include Theatre 600, 610, 621, 647A or 647B or 649, and 799A for students in Plan A or 790 for students in Plan B, and successful completion of the comprehensive examination for all Master of Arts candidates. Eighteen of the 30 units must be in 600- and 700-numbered drama courses and the remaining 12 units may be selected from 500-, 600-, or 700-numbered courses. A maximum of nine units may be elected outside the Theatre department.

Master of Fine Arts Degree in Theatre Arts

Concentration in Acting

In addition to meeting the admission requirements listed above, a student must demonstrate professional potential in musical theatre by providing:

1. Curriculum vitae or resume of acting accomplishments.
2. An audition, either in person or via video, 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.

Concentration in Design and Technology

In addition to meeting the admission requirements listed above, a student must demonstrate outstanding abilities in a particular area of design and technology 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 technology must submit a portfolio which contains evidence of technical direction and management experiences in scenic, lighting, or costume technology and design.
3. Curriculum vitae or 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.

Concentration in Musical Theatre

This program admits new students every other year only.

In addition to meeting the admission requirements listed above, a student must demonstrate professional potential in musical theatre by providing:

1. Curriculum vitae or resume of musical theatre accomplishments.
2. An audition, either in person or via video, to include two contrasting vocal selections.
3. Three references attesting to the candidate’s academic qualifications and level of competence in the areas of acting, singing, and dancing.

For specific audition dates and locations, write to the Director, Musical Theatre Program, School of Theatre, Television, and Film, San Diego State University, 5500 Campanile Drive, San Diego, CA 92182-7601 or visit our website at http://ttf.sdsu.edu.
Advancement to Candidacy

All students must meet the general requirements for advancement to candidacy as described in Part Four 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 seeking the Master of Fine Arts with a concentration in musical theatre are required to have completed Theatre 600 and remove any deficiencies noted by the faculty.

Specific Requirements for the Master of Fine Arts Degree

(Major Code: 10072) (SIMS Code: 662505)

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 theatre 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

(SIMS Code: 662517)

No students 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: Theatre 600, 610, 621, 630 (maximum two units), 746, 795, 799A.

Twelve additional units are to be selected from courses acceptable for graduate credit in the following areas: theatre, art, communication, education, English and comparative literature, exercise and nutritional sciences, history, linguistics, music, television, film, and new media. It is recommended that students include at least three units from Theatre 532, 533A 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 advisor.

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 Theatre 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 thesis project report (analysis/apologia).

Concentration in Design and Technology

(SIMS Code: 662508)

Candidates for the M.F.A. with a concentration in design and technology, in addition to meeting the requirements for classified graduate standing, must complete a 63-unit graduate program to include 24 units of core courses: Theatre 530A, 530B, 610, 643 (nine units), 644; Television, Film and New Media 605.

Eleven to 12 units of electives selected by student and adviser from graduate level courses to include Theatre 539, 540, 541, 546, 547, 548, 552, 553, 554A, 554B, 645; Television, Film and New Media 522, 550, 551, 558.

Eleven to 12 additional units of electives selected by student and adviser from graduate level courses to include Theatre 541, 545, 546, 548, 549, 550, 554A, 554B, 556, 557, 570A, 596, 621, 643, 645, 798; Television, Film and New Media 550, 559.

The student must also complete 16 units of practicum, internship and comprehensive examination consisting of Theatre 642 (four units), 746, 790, and 795 (six units).

Concentration in Musical Theatre

(SIMS Code: 662587)

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 48 units as follows: Theatre 555B (maximum credit eight units), 600, 620A, 620B, 622A, 622B, 623, 627 (maximum credit 16 units), 630 (maximum credit four units), 650, and 659. The student must also complete nine units of Theatre 746, 795 (minimum three units), and either 799A for students in Plan A or 790 for students in Plan B.

Three additional units are to be selected with the approval of the student’s graduate advisor from courses acceptable for graduate credit.

Candidates will either: (Plan A) successfully prepare a written thesis project report or (Plan B) successfully complete a comprehensive examination.

Courses Acceptable for Master’s Degree Programs in Theatre Arts (THEA)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

THEA 510. Creative Drama and Language Arts (3)
Prerequisite: Theatre 310 or 315. Advanced techniques in using creative drama to teach literature and language. Emphasis on use of drama in teaching of reading and world literature. Practical experience through fieldwork in elementary or middle school classrooms.

THEA 515. Playwriting (3)
Prerequisite: Theatre 325 or graduate standing. Writing for the stage and public presentation. Characterization, dialogue, and formal experimentation when writing short plays.

THEA 525. Dramaturgy (3)
Prerequisite: Theatre 325 or graduate standing. Theory and application of various aspects of dramaturgy and theatre literary management. Production-oriented synthesis of advanced text analysis, dramatic theory and criticism, historical research, and dramatic literature. Attendance at select plays required. May be repeated with new content. Maximum credit six units.

THEA 530. Period Dress and Decor (3)
Prerequisite: Theatre 325 or graduate standing. Visual survey of relationships and cultural significance of period dress, architecture, and decorative arts as applied to theatrical productions. Emphasis on significant historic periods in dramatic literature. Theatre 530A is not open to students with credit in Theatre 530.
A. Ancient World Through Eighteenth Century
B. NeoClassical Through Twentieth Century

THEA 532. Advanced Topics in Stage and Screen Performance (3)
Two lectures and two hours of activity. Prerequisites: Theatre 332 and either Theatre 320 or 355. Theory and practice in performance from theatre, television, and film to include physical theatre, voice and speech, film and theatre performance styles, intercultural theatre, devised work. May be repeated with new content. Maximum credits six units.

THEA 533A. Theory and Styles in Acting and Directing I (3)
Prerequisites: Theatre 332 and either Theatre 320 or 355. 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.

THEA 539. Theatre Rendering (2)
Four hours of activity. Prerequisite: Theatre 240. Rendering for scenic, costume, and lighting designers. Techniques, media, and portfolio preparation. Maximum credit four units.
THEA 540. Scene Design II (3)
Prerequisites: Theatre 440 and 530A or 530B.
History of scene design and application of contemporary styles to various types of dramatic productions.

THEA 541. Scene Painting (2)
Four hours of activity.
Prerequisite: Theatre 530A or 530B.
Theories and techniques of scene painting, including both historical backgrounds and modern procedures. Full-scale projects executed in scenery studio.

THEA 545. Mechanical Drawing for the Theatre (2)
Four hours of activity.
Prerequisite: Theatre 240 or admission to MFA in Design.
Theatre drafting standards and techniques. Floor plans, sections, elevations, perspective drawings, and light plots.

THEA 546. CADD for the Theatre (2)
Four hours of activity.
Prerequisite: Theatre 545.
Computer aided drafting applications for theatre designers.

THEA 547. Lighting Design II (3)
Two lectures and three hours of laboratory.
Prerequisite: Theatre 447.
Advanced design theories and lighting practice for theatre and dance. Laboratory and production related activities.

THEA 548. Sound Design for the Theatre (3)
Two lectures and two hours of activity.
Prerequisites: Theatre 440, 447, or Music 360, 460.
Theories and techniques of sound design and reinforcement for theatrical performance. Laboratory experience in sound production.

THEA 549. Lighting and Sound Technology (2)
One lecture and two hours of laboratory.
Prerequisite: Theatre 447.
Use of electrics for the stage. Lighting, sound, computer. Practical applications emphasized.

THEA 550. Software for Theatrical Design (2)
Four hours of activity.
Prerequisite: Theatre 440, 447, 452, or 546.
Application of computer software for theatre, including scenery, costume, lighting, and sound design. Maximum credit four units.

THEA 552. Costume Design II (3)
Prerequisites: Theatre 452 and 530A or 530B.
Advanced studies in costume design. Emphasis on theatrical style, rendering layout, design problems, materials, and budget.

THEA 553. Technical Direction (3)
Two lectures and three hours of activity.
Prerequisites: Theatre 240, 442.
Modern technical direction including project management (budgeting and procurement, managing employees); design and engineering; automation, rigging, advanced stagecraft (metalcraft, CNC machinery, composite construction), and safety. Maximum credit six units.

THEA 554A. Costume Design Technology I (2)
Four hours of activity.
Prerequisite: Theatre 240.
Current materials and practices of costume technology: advanced construction techniques, fabric selection and use, period pattern drafting, draping, and cutting. Maximum credit four units.

THEA 554B. Costume Design Technology II (2)
Four hours of activity.
Prerequisite: Theatre 240.
Advanced costume craft construction techniques and management procedures for costume production: millinery, fabric dyeing and painting, jewelry, and related crafts. Maximum credit four units.

THEA 555A. Movement for the Theatre II (2)
Four hours of activity.
Prerequisites: Theatre 332 and 355.
Movement techniques for the theatre. Movement patterns, phrase development, and partnering leading to scene work. Maximum credit four units.

THEA 555B. Movement for the Theatre II (2)
Four hours of activity.
Prerequisites: Admission to the MFA musical theatre program. Consent of Instructor for undergraduates.
Musical theatre movement and dance styles. Maximum credit eight units.

THEA 556. Digital Communication for Lighting Design (2)
One lecture and three hours of laboratory.
Prerequisite: Theatre 447 or admission to the M.F.A. in design and technical theatre.
Application of Lightwright, Vectorworks, and other industry-standard software programs to produce 2D/3D light plots, 3D lighting renderings, and professional quality lighting design package documentation. Communication techniques, drawing organization, and industry practices.

THEA 557. 3D Fabrication for Entertainment Design (2)
One lecture and three hours of laboratory.
Prerequisite: Theatre 240 or admission to the M.F.A. in design and technical theatre.
Theory and practice of basic principles of 3D printing and scanning for theatrical use. Basics of fused deposition modeling manufacture. Sourcing and creating 3D models. Creation and realization of original work.

THEA 570. Practicum in Theatrical Production (1-3)
Prerequisite: Theatre 440, 447, or 452; or admission to MFA in Design.
Design projects in areas of scenery, costume, lighting, sound, or makeup. Maximum credit six units for Theatre 570A and six units for Theatre 570B.
A. Independent Study
B. Design for Department Public Performances

THEA 580. Theatre in the Classroom (3)
Prerequisites: Theatre 310 and 315.
Methods of teaching theatre in elementary, middle, and secondary schools. Emphasis on pedagogy, organization of curriculum, play selection, and principles of producing plays in the classroom.

THEA 596. Selected Topics in Theatre (1-3)
Prerequisite: Twelve units in theatre.
A specialized study of selected topics from the areas of theatre. 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. Credit for 596 and 696 applicable to a master’s degree with approval of the graduate adviser.
GRADUATE COURSES

THEA 600. Writing for Theatre (3)
Prerequisite: Admission to graduate program in theatre arts.
Advanced study of forms and methods of writing to include critical writing for theatre. Making appropriate rhetorical choices for different writing contexts and the uses of research in writing. (Formerly numbered Theatre 600A and 600B.)

THEA 610. Seminar in Design Aesthetics for Theatre, Television, and Film (3)
Prerequisites: Admission to graduate program in theatre arts or television, film and new media production.
Aesthetic theories and practice. Design aesthetics as applied to theatre, television, film and new media production.

THEA 620. Seminar in History of Musical Theatre (3)
Prerequisite: Admission to M.F.A. musical theatre program.
Chronological survey of representative works from musical theatre history including major productions, personalities, styles, and genres. A. Nineteenth Century Viennese Operetta through 1950. B. 1950 to Present.

THEA 621. Seminar in Theories of the Theatre (3)
Prerequisite: Minimum three units of upper division theatre history. 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).

THEA 622A-622B. History of Musical Theatre Laboratory (1-1) Cr/NC
Three hours of laboratory. Prerequisite: Admission to M.F.A. musical theatre program. Laboratory component of Theatre 620A-620B. Theatre 622A must be taken concurrently with Theatre 620A; Theatre 622B must be taken concurrently with Theatre 620B.

THEA 623. Seminar in Musical Theatre Score Analysis (3)
Prerequisite: Admission to M.F.A. musical theatre program. Representative works from musical theatre analyzed in terms of dramatic and musical aesthetics.

THEA 627. Musical Theatre Studio (4)
Eight hours of activity. Prerequisite: Admission to M.F.A. musical theatre program. Acting, singing, and movement skills in relation to musical theatre performance. Maximum credit 16 units.

THEA 630. Individual Vocal Instruction (1)
Prerequisite: Admission to M.F.A. musical theatre program. Individual voice instruction/coaching for students in M.F.A. musical theatre program. Maximum credit four units.

THEA 642. Theatre Practicum Skills (1) Cr/NC
Prerequisite: Admission to M.F.A. in design and technical theatre program. Design projects for department productions. To be arranged with area adviser. Should be repeated each semester during the first two years of study for maximum credit four units.

THEA 643. Collaborative Studies in Design (3)
Two lectures and two hours of activity. Prerequisite: Admission to M.F.A. design and technical theatre program. 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.

THEA 644. Seminar in Contemporary Designers (3)
Prerequisite: Theatre 643. Major set, costume, and lighting designers working in contemporary theatre, film, and television.

THEA 645. Seminar in Theatrical Lighting (3)
Prerequisite: Theatre 547. Advanced studies in lighting for entertainment design. Investigation of related fields in lighting. Advanced case studies involving use of color and distribution of light. Maximum credit nine units.

THEA 647. Seminar in History of Theatre and Performance (3)
Prerequisite: Admission to M.A. or M.F.A. theatre arts program. A. Before 1900. B. After 1900.

THEA 649. Topics in World Theatre (1-3)
Prerequisite: Admission to M.A. or M.F.A. theatre arts program. 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 theatre arts.

THEA 650. Seminar in Musical Theatre Dance History (3)
Prerequisite: Admission to M.F.A. musical theatre program. Study of choreographic styles of musical theatre.

THEA 659. Musical Theatre Stage Direction (3)
Prerequisite: Admission to M.F.A. musical theatre program. Special problems in directing for the musical theatre.

THEA 659A. Seminar in History of Theatre and Performance (1-3)
Prerequisite: Consent of instructor. Intensive study in specific areas of theatre arts. May be repeated with new content. See Class Schedule for specific content. Credit for 659A and 659B applicable to a master's degree with approval of the graduate adviser.

THEA 746. Theatre Internship (3) Cr/NC
Prerequisites: Theatre 621 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.

THEA 790. Directed Readings in Theatre Arts (3) Cr/NC
Prerequisite: Admission to graduate program. Faculty supervised projects leading to public presentation. Maximum credit six units.

THEA 795. Practicum in Theatre Arts (1-6)
Prerequisite: Theatre 621. Faculty supervised projects leading to public presentation. Maximum credit six units.

THEA 798. Special Study (1-3) Cr/NC/RP
Prerequisite: Project/assignment to be arranged with area adviser. Individual study. Maximum credit six units applicable to a master's degree.

THEA 799A. Thesis or Project (3) Cr/NC/RP
Prerequisites: An officially appointed thesis committee and advancement to candidacy. Thesis 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.

THEA 799B. Thesis or Project Extension (0) Cr/NC
Prerequisite: Prior registration in Thesis or Project 799A with an assigned grade symbol of RP. Registration required in any semester or term following assignment of RP 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.

THEA 799C. Comprehensive Examination Extension (0) Cr/NC
Prerequisite: Completion or concurrent enrollment in degree program courses. Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.
OFFICE: Arts and Letters 346
TELEPHONE: 619-594-6524
http://womensstudies.sdsu.edu/

Faculty
Doreen J. Mattingly, Ph.D., Associate Professor of Women’s Studies, Chair of Department
Susan E. Cayleff, Ph.D., Professor of Women’s Studies [Senate Distinguished Professor]
Anne Donadey, Ph.D., Professor of French and Women’s Studies
Huma Ahmed Ghosh, Ph.D., Professor of Women’s Studies
Esther D. Rothblum, Ph.D., Professor of Women’s Studies
Anh N. Hua, Ph.D., Associate Professor of Women’s Studies
Amira J. Jarmakani, Ph.D., Associate Professor of Women’s Studies
Irene Lara, Ph.D., Associate Professor of Women’s Studies
Kimala J. Price, Ph.D., Associate Professor of Women’s Studies (Graduate Adviser)

Associateships and Assistantships
Graduate teaching associateships and graduate assistantships in women’s studies are available to a number of qualified students. Application forms and additional information may be obtained from the graduate adviser in the Department of Women’s Studies or on-line.

General Information
The Department of Women’s Studies offers graduate study leading to the Master of Arts degree in women’s studies. The department, recognized as the nation’s first (1970) and among the strongest, has a distinguished faculty in the humanities and social sciences. Discipline-specific expertise as well as feminist theoretical paradigms are available to satisfy students’ multi-faceted interests.

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 women’s studies or related fields. The degree will also provide a foundation for further graduate work in professional degree programs such as counseling, social work, law, and public health. It will also prepare students for teaching in a community college and other institutions of higher learning. The Master of Arts will enhance students’ ability to participate professionally in a range of organizations and businesses in the public and private sector, particularly those addressing women’s issues.

Admission to Graduate Study
The application deadline for fall admission of new students in the Department of Women’s Studies is February 15 for the Cal State Apply application and all other materials. 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, students must demonstrate sufficient preparation for the program. This preparation can include possession of a bachelor’s degree in women’s studies from an accredited institution or completion of sufficient units in women’s studies and related fields. Evaluation of a student’s transcript will be made on an individual basis by the admissions committee to determine whether evidence of sufficient preparation can be demonstrated. A student whose preparation is deemed insufficient by the Graduate Admissions Committee may be admitted as conditionally classified and will be required to complete specified courses in addition to the minimum of 30 units required for the degree.

The grade point average required for admission to the Master of Arts program in women’s studies is 3.0 for the last 60 units of the student’s undergraduate work, plus satisfactory scores on the verbal, quantitative, and analytic sections of the GRE.

Students applying for admission should electronically submit the university application available at http://www.calstate.edu/apply along with the $55 application fee.

All applicants must submit admissions materials separately to SDSU Graduate Admissions and to the Department of Women’s Studies.

Graduate Admissions
All applicants must submit admissions materials as specified below.

(1) University application (Cal State Apply at http://www.calstate.edu/apply).

All applicants to the program must complete an online application on Cal State Apply and pay the required fee by February 15. A RedID will then be assigned which allows tracking of application status online.

(2) Office of Graduate Admissions requirements.

Official test scores and transcripts must be received by March 1.

- Official transcripts from all colleges and universities attended.
- GRE (and if applicable, TOEFL) test scores sent directly from ETS. (SDSU Institution Code 4682)

Send to:
Graduate Admissions
Enrollment Services
San Diego State University
San Diego, CA 92182-7416

The following admissions materials must be submitted electronically via DecisionDesk, http://gra.sdsu.edu/decisiondesk/ by February 15:

(1) Copies of transcripts from all colleges and universities attended (these do not need to be sent directly from the colleges - photocopies are acceptable);
(2) Copies of GRE (and if applicable, TOEFL) test scores;
(3) Two letters of recommendation – applicant must provide names and e-mail addresses for recommenders. Recommenders will be invited to complete the recommendation electronically;
(4) A two-page, single-spaced statement of purpose, concerning the applicant’s scholarly background, intentions, and goals. The statement should address the applicant’s experience in women’s studies and with women’s issues, rationale for pursuing the M.A. degree, and relation of the M.A. degree in women’s studies to prior academic work and career objectives. Explain how your understanding of feminism intersects with ability, class, race, sexual orientation, and other dimensions of difference;
(5) Applicants must state whether they are applying for full-time or part-time status. (A small number of part-time students may be admitted each year. Applicants should read carefully the information provided under part-time program guidelines.)

Advancement to Candidacy
All students must satisfy the general requirements for advancement to candidacy, as stated in Part Four of this bulletin.
Women’s Studies

Specific Requirements for the Master of Arts Degree

(Major Code: 49991) (SIMS Code: 119502)

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master’s degree as described in Part Four of this bulletin, the student, in consultation with the graduate adviser, must fulfill a three-unit language requirement selected from a foreign language, statistics, or American Sign Language. In addition, the student must complete a graduate program of 30 units to include Women’s Studies 601, 602; nine units selected from Women’s Studies 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 696; Women’s Studies 797 and 799A (for Plan A Thesis); and a theme of study composed of nine units of graduate electives, selected with the approval of the graduate adviser.

To complete the Master of Arts degree in women’s studies, students pursue a thesis or project (Plan A), or comprehensive examination (Plan B). When Plan B is selected, students will take three additional graduate units in women’s studies in lieu of 799A. 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.

Students may choose an international specialization consisting of nine units of graduate courses selected from Women’s Studies 512, 530, 560, 570, 580, 581, 605, 607, 609, 611. Other graduate level courses may be included in the international specialization with the approval of the graduate adviser.

Advanced Certificate in Women’s Studies

(SIMS Code: 119503)

The Department of Women’s Studies offers an advanced certificate to provide an opportunity for students to increase their understanding of women in the humanities and social sciences. The certificate program addresses diverse ways for students to develop knowledge of how women lived, thought, resisted, created knowledge, and engaged in cultural activism.

The advanced certificate requires 12 units, to include Women’s Studies 590.

Nine units can be selected within an area of specialization to include six units of 600- or 700-level courses. The electives for the three specializations – International, Health and Sexualities, Gender, Race, and Class are as follows:

International: Women’s Studies 512, 530, 565, 580, 581, 601, 603, 607, 609.

For further information, contact the graduate adviser in the Department of Women’s Studies at 619-594-6524 or visit http://womensstudies.sdsu.edu/

Courses Acceptable for Master’s Degree Program in Women’s Studies (WMNST)

Refer to Courses and Curricula and Regulations of the Division of Graduate Affairs sections of this bulletin for explanation of the course numbering system, unit or credit hour, prerequisites, and related information.

UPPER DIVISION COURSES

WMNST 512. Latinas in the Americas (3)
Prerequisite: Three upper division units in women’s studies.
Comparative study of women’s movements worldwide, including organizations, issues and initiatives. Women’s diverse social/political strategies within local, national, and global contexts. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

WMNST 515. Women: Myth, Ritual, and the Sacred (3)
Prerequisite: Three upper division units in women’s studies.
Meanings and functions of myths and rituals in their sacred and secular aspects, emphasizing their impact on women’s lives and relationships in differing cultural contexts, past and present.

WMNST 520. Reproductive Rights and Justice (3)
Prerequisite: Three upper division units in women’s studies.
History, cultural attitudes, and politics of reproduction and sexual health to include abortion, contraception, sterilization, sexually transmitted diseases (STDs), HIV/AIDS, sex education, reproductive, and genetic technology.

WMNST 522. Women: Madness and Sanity (3)
Prerequisite: Three upper division units in women’s studies.
Mental health and mental illness in literature, film, and psychological research. Clinical and feminist approaches to mental health issues in women’s lives.

WMNST 530. Women’s Movements and Activism (3)
Prerequisite: Three upper division units in women’s studies.
Comparative study of women’s movements worldwide, including organizations, issues and initiatives. Women’s diverse social/political strategies within local, national, and global contexts. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

WMNST 535. Lesbian Lives and Cultures (3)
Historical, cultural, and social exploration of lesbianism. Topics include myths and stereotypes, history and literature, social and political movements, theoretical explanations, and current conditions.

WMNST 536. Gender, Race, and Class (3)
Prerequisite: Three upper division units in women’s studies.
Intersecting theories of gender, race and class in both local and global contexts. Major themes in history, culture, and contemporary lives of women analyzed through feminist and critical race theories.

WMNST 540. Women and the Environment (3)
Prerequisite: Three upper division units in women’s studies.
Women environmental activists and authors including those in diverse communities, settings, and alliances (native American, British colonial, Asian, American environmental movements, urban environmental justice).
WMNST 545. Women and Sports (3)  
Prerequisite: Three upper division units in women's studies.  
Diverse women's creation of and involvement in recreational and competitive sports, mid-1800s to present to include impact of medical experts' views, homophobia, disability, individual elite athletes, team sports, economic viability, and changes since Title IX.

WMNST 560. Women in Muslim Societies (3)  
Prerequisite: Three upper division units in women's studies.  
Socio-political status of women in Muslim societies in Middle East, North Africa, and Asia; women in the Quran; Muslim women's movements.

WMNST 565. Women: Health, Healing, and Medicine (3)  
Prerequisite: Three upper division units in women's studies.  
Relationship of women to "modern" and "traditional" health care/healing systems in historical and cultural perspective. Representations and practices regarding the politics of women's health and illness.

WMNST 570. Gender, War, and Peace (3)  
Prerequisite: Three upper division units in women's studies.  
Interdisciplinary exploration of women's relation to war, peace, and militarism; women's peace activism and beliefs about motherhood; women's roles in armed conflicts; effects of war on women; military policy and beliefs about masculinity.

WMNST 572. Women and Violence (3)  
Prerequisite: Three upper division units in women's studies.  
Forms of violence against and by women. Processes which shape women's resistance to, and collusion in, social, economic, political, and sexual violence.

WMNST 580. Women, Development, and the Global Economy (3)  
Prerequisite: Three upper division units in women's studies.  
Women's roles as agents and recipients of global economic and political change focusing on women's empowerment, work, health, and the environment. Topics include women's movements worldwide and non-governmental organizations.

WMNST 581. Women's Experiences of Migration (3)  
Prerequisite: Three upper division units in women's studies.  
Gender analysis of impact of international migration on women's lives. Identity formation, trauma, language, gender roles, and sexuality in life narratives of immigrant and refugee women. Economic and legal issues affecting immigrant and refugee women.

WMNST 582. Feminist Science and Activism (3)  
Prerequisite: Three upper division units in women's studies.  
Feminist science studies to examine role of public in creating and challenging scientific knowledge. Case studies of activism and science. May include HIV/AIDS, the environment, sex differences, women's health, and technology.

WMNST 585. Local Feminist Activism and Organizations (3)  
Prerequisite: Three upper division units in women's studies.  
Links scholarly knowledge about feminist activism and non-profit organizations serving women to specific information about San Diego area. Entering workforce preparation and activism to include economic justice, LGBTQ issues, reproductive rights and justice, sexual violence.

WMNST 590. Feminist Thought (3)  
Prerequisite: Consent of instructor.  
Readings of feminist theory in historical perspective, with attention to contemporary debates in feminist scholarship.

WMNST 596. Topics in Women's Studies (1-3)  
Prerequisite: Consent of instructor.  
Advanced topics in women's studies. May be repeated with new content. See Class Schedule for specific content. Limit of nine units of any combination of 596, 496, 596 courses applicable to a bachelor's degree. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

WMNST 597. Research Project (3)  
Prerequisites: Six upper division units in women's studies and consent of adviser.  
Individual research project.

WMNST 598. Women's Studies Internship (3) Cr/NC  
Prerequisites: Three upper division units in women's studies and consent of instructor.  
Application of women's studies theories and scholarship to community service and activism. Internship includes 120 hours of work in local public and private agencies serving women and girls. Maximum credit six units.

GRADUATE COURSES

WMNST 601. Foundations of Feminist Scholarship (3)  
Prerequisite: Classified graduate standing.  
Theories, issues, and major paradigms underlying feminist scholarship. Development of women's studies as a discipline. Emphasis on multicultural approaches and perspectives.

WMNST 602. Seminar: Methods of Inquiry in Women's Studies (3)  
Prerequisite: Classified graduate standing.  
Examination and critique of traditional research methods; methods of critical feminist investigation; designs of research proposals.

WMNST 603. Seminar: Advanced Feminist Theory (3)  
Prerequisite: Classified graduate standing.  
Analysis of categories of contemporary feminist theory including concepts of identity and difference; theories of subjectivity; feminist discourses, strategies, and practices.

WMNST 604. Seminar: Gender, Culture, and Representation (3)  
Prerequisite: Classified graduate standing.  
Representations of women, gender, and femininity in literature, art, music, and other cultural productions. Interconnection between representations of gender, race, ethnicity, class, and sexualities. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

WMNST 605. Seminar: Women and Social Policy (3)  
Prerequisite: Classified graduate standing.  
Laws and social policies impacting women and their families in historical and political context. Theoretical and practical implications to include workplace issues, economic justice, health, reproductive justice, violence, and regulation of sexuality and relationships.

WMNST 606. Seminar: Narrating Women's Lives (3)  
Prerequisite: Classified graduate standing.  
Exploration of women's biographies and autobiographies. Theories of narration, identity construction, and oral and written life histories. Interconnection between self-presentation and social, historical, and multicultural institutions and discourses.

WMNST 607. Seminar: Privilege and Oppression (3)  
Prerequisite: Classified graduate standing.  
Theoretical and practical implications discussed.

WMNST 608. Seminar: Body Politics (3)  
Prerequisite: Classified graduate standing.  
Historical exploration illuminates contemporary and past constructions of female, male, and transgendered sexualities. Facilitates ability to critique "innate" vs. culturally constructed behaviors and identities. Key institutions that control and define the body explored: labor, race, economics, law, and medicine.

WMNST 609. Seminar: Transnational Issues and Gender (3)  
Prerequisite: Classified graduate standing.  
Globalization of economy, culture, and politics with a focus on women's lives. Case studies of effect of transnational processes on women and role of gender in shaping these processes.
WMNST 610. Seminar in Sexuality (3)  
Prerequisite: Classified graduate standing.  
Sexuality and gender identity in diverse individual, social, political, and cultural contexts.

WMNST 611. Seminar: Gender and Diaspora (3)  
Prerequisite: Classified graduate standing.  
Historical and interdisciplinary perspectives on gendered impact of forcible migration (African, Asian, Jewish). Scholarly debates concerning influence of men's and women's experiences of diaspora on modern political identities, social movements, and cultural production. May be repeated with new content. See Class Schedule for specific content. Maximum credit six units.

WMNST 612. Seminar: Feminist Pedagogies (3)  
Prerequisite: Classified graduate standing.  
Feminist and interrelated critical pedagogies and their application in the classroom. Teaching from social justice, intersectional, and transnational approaches. Role of identity, difference, power, and embodiment in teaching and learning. Practical teaching skills and wholistic classroom strategies.

WMNST 692. Writing Workshop (1)  
Prerequisite: Classified graduate standing.  
Argument, norms, and styles in academic writing. Maximum credit three units.

WMNST 696. Selected Topics in Women's Studies (3-6)  
Prerequisite: Classified graduate standing.  
Intensive study in specific areas of women's studies, with emphasis on theoretical and methodological issues. May be repeated with new content. See Class Schedule for specific content. Credit for 596 and 696 applicable to a master's degree with approval of the graduate adviser.

WMNST 797. Research (1-3) Cr/NC/RP  
Prerequisites: Advancement to candidacy and written approval of department graduate adviser.  
Independent research in a specialized subject in women's studies.

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

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

WMNST 799B. Thesis Extension (0) Cr/NC  
Prerequisite: Prior registration in Thesis 799A with an assigned grade symbol of RP.  
Registration required in any semester or term following assignment of RP 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.

WMNST 799C. Comprehensive Examination Extension (0) Cr/NC  
Prerequisite: Completion or concurrent enrollment in degree program courses.  
Registration required of students whose only requirement is completion of the comprehensive examination for the master's degree. Registration in 799C limited to two semesters.