Bulletin
of
The University of Texas
at
San Antonio

Graduate Catalog 1978-80
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The policies, regulations, and procedures stated in this catalog are subject to change without prior notice, if necessary, so that University policies are consistent with the policies of the Board of Regents of The University of Texas System and are in compliance with state and federal laws.

Students are held individually responsible for meeting all requirements as indicated in this catalog. Failure to read and comply with policies, regulations and procedures will not exempt a student from whatever penalties he or she may incur.

No person shall, on the basis of race, color, national origin, religion, or sex be excluded from participation in, be denied the benefits of, or be subject to discrimination under, any program or activity sponsored or conducted by The University of Texas System or any of its component institutions.
I. CALENDAR
Fall Semester, 1978

August 23-24  Tuesday-Thursday. Registration, Orientation, Advisement.'
August 28      Monday. Classes begin.
September 1    Friday. Last day to add a class without special permission. Last day for late registration. Last day to drop a course or withdraw without a record of the enrollment. Deadline for Fall, 1978, graduates to apply for graduation. Last day to withdraw and receive an 80% refund of tuition and fees.
September 4    Monday. Holiday.
September 11   Monday. Last day to withdraw and receive a 70% refund of tuition and fees.
September 13   Wednesday. Last day to add a class. Census date.
September 18   Monday. Last day to withdraw and receive a 50% refund of tuition and fees.
September 25   Monday. Last day to withdraw and receive a 25% refund of tuition and fees.
October 6      Friday. Last day to drop a course with an automatic grade of "W".
October 27     Friday. Deadline for submission of preliminary draft of thesis.
November 21    Tuesday. Deadline for submission of final copy of thesis.
November 23-25 Thursday-Saturday. Thanksgiving holidays.
December 4     Monday. Last day to drop a course or withdraw.
December 6     Wednesday. Deadline to file approved thesis with Dean's Office.
December 11-16 Monday-Saturday. Final Examinations.
December 16    Saturday. Semester closes.

Spring Semester, 1979

January 8-10   Monday-Wednesday. Registration, Orientation, Advisement.'
January 15     Monday. Classes begin.
January 19     Friday. Last day to add a class without special permission. Last day for late registration. Last day to drop a course or withdraw without a record of the enrollment. Last day for Spring, 1979, graduates to apply for graduation. Last day to withdraw and receive an 80% refund of tuition and fees.
January 26     Friday. Last day to withdraw and receive a 70% refund of tuition and fees.
January 30     Tuesday. Last day to add a class. Census date.
February 2     Friday. Last day to withdraw and receive a 50% refund of tuition and fees.

'A more detailed calendar for registration, orientation, and advisement will be issued by the Registrar.
<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>February 9</td>
<td>Friday. Last day to withdraw and receive a 25% refund of tuition and fees.</td>
</tr>
<tr>
<td>February 23</td>
<td>Friday. Last day to drop a course with an automatic grade of 'W'.</td>
</tr>
<tr>
<td>March 26</td>
<td>Monday. Deadline for submission of preliminary draft of thesis.</td>
</tr>
<tr>
<td>March 19-24</td>
<td>Monday-Saturday. Spring vacation.</td>
</tr>
<tr>
<td>April 17</td>
<td>Tuesday. Deadline for submission of final copy of thesis.</td>
</tr>
<tr>
<td>April 30</td>
<td>Monday. Last day to drop a course or withdraw.</td>
</tr>
<tr>
<td>May 2</td>
<td>Wednesday. Deadline to file approved thesis with Dean's Office.</td>
</tr>
<tr>
<td>May 7-12</td>
<td>Monday-Saturday. Final Examinations.</td>
</tr>
<tr>
<td>May 12</td>
<td>Saturday. Semester closes.</td>
</tr>
<tr>
<td>May 13</td>
<td>Sunday. Commencement.</td>
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**Summer Session, 1979**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>May 31-June 1</td>
<td>Thursday-Friday. Registration, Orientation, Advisement.²</td>
</tr>
<tr>
<td>June 4</td>
<td>Monday. Classes begin.</td>
</tr>
<tr>
<td>June 6</td>
<td>Wednesday. Last day to withdraw and receive an 80% refund of tuition and fees.</td>
</tr>
<tr>
<td>June 11</td>
<td>Monday. Last day to withdraw and receive a 50% refund of tuition and fees.</td>
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**Fall Semester, 1979**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 20-22</td>
<td>Monday-Wednesday. Registration, Orientation, Advisement.²</td>
</tr>
<tr>
<td>August 27</td>
<td>Monday. Classes begin.</td>
</tr>
<tr>
<td>August 31</td>
<td>Friday. Last day to add a class without special permission. Last day for late registration. Last day to drop a course or withdraw without a record of the enrollment. Deadline for Fall, 1979, graduates to apply for graduation. Last day to withdraw and receive an 80% refund of tuition and fees.</td>
</tr>
<tr>
<td>September 3</td>
<td>Monday. Holiday.</td>
</tr>
<tr>
<td>September 10</td>
<td>Monday. Last day to withdraw and receive a 70% refund of tuition and fees.</td>
</tr>
<tr>
<td>September 12</td>
<td>Wednesday. Last day to add a class. Census date.</td>
</tr>
<tr>
<td>September 17</td>
<td>Monday. Last day to withdraw and receive a 50% refund of tuition and fees.</td>
</tr>
<tr>
<td>September 24</td>
<td>Monday. Last day to withdraw and receive a 25% refund of tuition and fees.</td>
</tr>
<tr>
<td>October 5</td>
<td>Friday. Last day to drop a course with an automatic grade of 'W'.</td>
</tr>
<tr>
<td>October 28</td>
<td>Friday. Deadline for submission of preliminary draft of thesis.</td>
</tr>
</tbody>
</table>

²A more detailed calendar for registration, orientation, and advisement will be issued by the Registrar.
November 20  Tuesday. Deadline for submission of final copy of thesis.

November 22-24  Thursday-Saturday. Thanksgiving holidays.

December 3  Monday. Last day to drop a course or withdraw.

December 5  Wednesday. Deadline to file approved thesis with Dean’s Office.


December 15  Saturday. Semester closes.

**Spring Semester, 1980**

January 7-9  Monday-Wednesday. Registration, Orientation, Advisement.


January 18  Friday. Last day to add a class without special permission. Last day for late registration. Last day to drop a course or withdraw without a record of the enrollment. Last day for Spring, 1980, graduates to apply for graduation. Last day to withdraw and receive an 80% refund of tuition and fees.

January 25  Friday. Last day to withdraw and receive a 70% refund of tuition and fees.

January 29  Tuesday. Last day to add a class. Census date.

February 1  Friday. Last day to withdraw and receive a 50% refund of tuition and fees.

February 8  Friday. Last day to withdraw and receive a 25% refund of tuition and fees.

February 22  Friday. Last day to drop a course with an automatic grade of “W”.

March 21  Friday. Deadline for submission of preliminary draft of thesis.

March 10-15  Monday-Saturday. Spring vacation.

April 15  Tuesday. Deadline for submission of final copy of thesis.

April 28  Monday. Last day to drop a course or withdraw.

April 30  Wednesday. Deadline to file approved thesis with Dean’s Office.

May 5-10  Monday-Saturday. Final Examinations.

May 10  Saturday. Semester closes.

May 11  Sunday. Commencement.

**Summer Session, 1980**

May 29-30  Thursday-Friday. Registration, Orientation, Advisement.

June 2  Monday. Classes begin.

June 4  Wednesday. Last day to withdraw and receive an 80% refund of tuition and fees.

June 9  Monday. Last day to withdraw and receive a 50% refund of tuition and fees.

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*A more detailed calendar for registration, orientation, and advisement will be issued by the Registrar.*
II. GENERAL INFORMATION
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Wayne W. Laughery, Professor, B.A., M.A., San Diego State College; Ed.D., Columbia University Teachers College
Elwood B. Traylor, Professor, B.A., Greenville College; M.A., Ph.D., Washington University at St. Louis
Paul H. Westmeyer, Professor, B.S., M.A., Ball State University; Ed.D., University of Illinois
Ronnie H. Alexander, Associate Professor, B.S., M.A., Central State University; Ed.D., University of Kansas
Cecile G. Burns, Associate Professor, B.M., University of Jacksonville; Ed.M., Ed.D., Temple University
John W. Hollomon, Associate Professor, B.A., Dillard University; M.A., West Virginia University; M.A., Universidad Interamericana, Saltillo; Ph.D., University of New Mexico
Marian L. Martinello, Associate Professor, B.S., M.S., Queens College; Ed.D., Columbia University Teachers College
Berry N. Sutherland, Associate Professor, B.S., University of Texas at Austin; M.S., Ed.D., University of Houston
C. Taylor Whittier, Associate Professor, A.B., A.M., Ph.D., University of Chicago
Kenneth W. Wunderlich, Associate Professor, B.A., Ph.D., University of Texas at Austin
Paula R. Boothby, Assistant Professor, B.A., Kalamazoo College; M.A., Western Michigan University; Ed.D., University of North Dakota
Gillian Cook, Assistant Professor, B.A., Sir George Williams University; Ministry of Education Teacher's Certificate, University of London; Ed.M., Ed.D., Harvard University
Pamela Y. Dalton, Assistant Professor, B.A., Marian College; M.A.E., Ed.D., Ball State University
Richard A. Diem, Assistant Professor, B.S., Bradley University; M.S., Southern Illinois University; M.A., Colorado State University; Ph.D., Northwestern University
Pamela J. Eckard, Assistant Professor, M.A., Ed.D., Ball State University
Myrna L. Estep, Assistant Professor, B.A., M.S., Ph.D., Indiana University
Peter G. Fairweather, Assistant Professor, B.A., M.A.T., Ph.D., Northwestern University
Barbara Kay Gonzalez, Assistant Professor, B.A., M.A., Ph.D., University of Texas at Austin
Peggy J. Gray, Assistant Professor, B.S., M.S., Ed.D., Indiana University
Herbert K. Heger, Assistant Professor, B.S., M.Ed., Miami University; Ph.D., Ohio State University
Margaret O. Langer, Assistant Professor, B.S., Pennsylvania State University; Ed.M., Ed.D., Rutgers University
Robert E. Lindberg, Assistant Professor, B.A., University of Minnesota; M.Ed., University of Missouri; Ph.D., Arizona State University
Eileen T. Lundy, Assistant Professor, B.S., College of St. Teresa; Ph.D., University of Texas at Austin
Jane B. Markowitz, Assistant Professor, B.A., Brooklyn College; M.S., Syracuse University; Ph.D., Indiana University
Robert E. Roemer, Assistant Professor, B.A., M.A., St. Louis University; Ph.D., Syracuse University
James E. Schnitz, Assistant Professor, B.A., M.A.T., Ph.D., Northwestern University
Gloria Zamora, Assistant Professor, B.S., Incarnate Word College; M.Ed., Our Lady of the Lake College; Ph.D., University of Texas at Austin
Jesse T. Zapata, Assistant Professor, B.A., University of Texas at Austin; M.E., Texas Tech University; Ph.D., Arizona State University

Division of Environmental Studies
J. Leland Hepworth, Professor, B.S., Utah State University; M.S., University of Idaho; Ph.D., Oklahoma State University
Richard S. Howe, Professor, B.S., University of Kentucky; M.S., Ph.D., University of Wisconsin at Madison
Chia Shun Shih, Professor, B.S., Taiwan, C.K. University; M.S., Ph.D., University of Texas at Austin
John W. Adams, Associate Professor, B.S., M.S., Utah State University; Ph.D., Washington State University
Richard R. Tangum, Associate Professor, B.S., Texas Tech University; M.Arch., Virginia Polytechnic Institute; D.E.D., Texas A & M University
Henry G. Cisneros, Assistant Professor, B.A., M.U.R.P., Texas A & M University; M.P.A., Harvard University; D.P.A., George Washington University
Daniel O. Hogenauer, Assistant Professor, B.S., Haverford College; Ph.D., Johns Hopkins University
Louise B. Wolltz, Assistant Professor, B.S., Cornell University; Ph.D., University of California, Berkeley

COLLEGE OF SCIENCES AND MATHEMATICS

Division of Allied Health and Life Sciences
Wayne E. Magee, Professor, B.A., Kalamazoo College; M.S., Ph.D., University of Wisconsin at Madison
Bernard P. Saglik, Professor, B.S., College of City of New York; M.S., Ph.D., University of Illinois
June E. Ayling, Associate Professor, B.S., Ph.D., University of California
M. Neal Guentzel, Associate Professor, B.A., M.A., Ph.D., University of Texas at Austin
Helen V. Oujesky, Associate Professor, B.A., B.S., Texas Woman's University; M.A., Texas Christian University; Ph.D., Texas Woman's University
Jerry L. Phillips, Associate Professor, B.A., University of Colorado; Ph.D., Colorado State University
Paul H. Rodriguez, Associate Professor, B.S., Creighton University; M.S., University of New Mexico; Ph.D., University of Rhode Island
Oscar W. Van Auken, Associate Professor, B.S., High Point College, North Carolina; M.S., Ph.D., University of Utah
Helen J. Cronenberger, Assistant Professor, B.A., B.S., University of Texas at Austin; Ph.D., University of Houston; MT (ASCP) Methodist Hospital, Houston, Texas
Arnold H. Hassen, Assistant Professor, B.S., Brooklyn College; Ph.D., Indiana University
Martin A. Kramen, Assistant Professor, B.S., M.S., University of Illinois; Ph.D., University of Kansas
Marilyn A. Luduena, Assistant Professor, B.A., Western Reserve University; Ph.D., Stanford University
Samuel A. Ramirez, Assistant Professor, B.A., University of Texas at El Paso; M.S., Texas Tech University; Ph.D., Indiana University
James T. Rutledge, Assistant Professor, A.B., University of California, Berkeley; Ph.D., University of California, Davis.

Division of Earth and Physical Sciences
Charles Howard, Professor, B.S., Ph.D., University of Wisconsin at Madison
Richard V. McGehee, Professor, B.S., University of Texas at Austin; M.S., Yale University; Ph.D., University of Texas at Austin
B. S. Thyagarajen, Professor, B.S., Loyola College, India; M.S., Ph.D., Presidency College, India
Petr Hochmann, Associate Professor, M.S., Charles' University, Prague; Ph.D., Czechoslovak Academy of Science, Prague
Herbert B. Silber, Associate Professor, B.S., M.S., Lehigh University; Ph.D., University of California, Davis
Charles A. Sorber, Associate Professor, B.S., M.S., Pennsylvania State University; Ph.D., University of Texas at Austin
Philip L. Stotter, Associate Professor, A.B., Harvard College, Cambridge; A.M., Ph.D., Columbia University, New York
Miroslav Synak, Associate Professor, B.S., M.S., Charles' University, Prague; Ph.D., University of Chicago
Pemmaraju Narasimha Rao, Adjunct Associate Professor, B.S., M.S., Andhra University, India; Ph.D. Calcutta University, India
Robert D. Renthal, Assistant Professor, B.A., Princeton University; Ph.D., Columbia University
Robert F. Williams, Assistant Professor, B.A., Gettysburg College; Ph.D., Emory University, Atlanta

Division of Mathematics, Computer Science, and Systems Design
Manuel P. Berroizabal, Professor, B.S., Rockhurst College; M.S., Notre Dame University; Ph.D., University of California at Los Angeles
Lucio Tavernini, Professor, B.S., Heald Engineering College; M.S., University of Colorado; M.S., Ph.D., University of Wisconsin at Madison
Joseph E. Valentine, Professor, B.S., Southwest Missouri State; M.S., University of Illinois; Ph.D., University of Missouri
Stanley G. Wayment, Professor, B.S., Brigham Young University; M.S., University of Utah; M.S., Stanford University; Ph.D., University of Utah
William B. Gearhart, Associate Professor, B.S., M.S., Ph.D., Cornell University
Hugh B. Maynard, Associate Professor, B.S., California Institute of Technology; Ph.D., University of Colorado
Clinton J. Kolaski, Assistant Professor, B.S., M.S., Ph.D., University of Wisconsin at Madison
Kay A. Robbins, Assistant Professor, S.B., Ph.D., Massachusetts Institute of Technology
Steven Robbins, Assistant Professor, S.B., S.M., Ph.D., Massachusetts Institute of Technology
David G. Tabor, Assistant Professor, B.S., University of Texas at Arlington; M.S., Ph.D., New Mexico State University
James D. Thomas, Assistant Professor, B.S., M.S., St. Louis University; M.A., Yeshiva University; Ph.D., Pennsylvania State University
Ram C. Tripathi, Assistant Professor, B.A., M.A., Banaran Hindu University, India; M.S., Ph.D., University of Wisconsin at Madison
HISTORY

On June 5, 1969, the legislative act creating The University of Texas at San Antonio as a component institution of The University of Texas System was signed into law by the Governor. By this legislation directing that The University of Texas at San Antonio offer "courses leading to such customary degrees as are offered at leading American universities," the Legislature of the State of Texas established a new public institution of higher learning that would serve both undergraduate (lower and upper division) and graduate students. The legislation further stipulated that The University be "one of the first class."

In May, 1970, the Board of Regents of The University of Texas System accepted a gift of approximately 600 acres of wooded land located sixteen miles northwest of the center of San Antonio to serve as the permanent campus for The University of Texas at San Antonio. Shortly thereafter administrative and planning offices were established in the former Maison Blanche building on the grounds of the HemisFair Plaza.

By the end of 1970, a master conceptual plan for the permanent campus was approved by the Board of Regents, and by June, 1971, final plans and specifications for the first seven permanent buildings of the campus were completed. After completion of the site improvement work, construction contracts were awarded in May, 1972, calling for a completion date of May, 1974, subsequently revised because of construction delays.

In January, 1972, temporary classrooms and offices were acquired in northwest San Antonio in the Koger Executive Center at the intersection of Loop 410 and Babcock Road. Graduate students enrolled for the first time at the Koger site in June, 1973. These facilities were occupied by The University until buildings on the new campus became available. Upper-division junior and senior students were accepted on the permanent campus in September, 1975; and lower-division students were registered in June, 1976.

In the Spring of 1972 the Board of Regents of The University of Texas System and the Coordinating Board, Texas College and University System approved the academic organization and degree programs recommended for the new university. These degree programs, additional degree programs subsequently approved, as well as additional changes in UT San Antonio's organizational structure are described in the institutional catalogs.

UTSA grew rapidly in its early years from 671 graduate students in June of 1973 to 7849 undergraduate and graduate students in September of 1977. The University had awarded 1733 degrees at the end of August 1977.

The second phase of campus construction was initiated in Summer 1977. This phase consisted of a classroom and office building; an addition to the Arts Building, including a sculpture and ceramics studio building; ten outdoor championship tennis courts; and an outdoor multi-purpose playing field with 400 meter running track.

The Student Representative Assembly had its constitution approved by the Board of Regents on October 1, 1976, and the first slate of officers was elected on November 22, 1976.

The Alumni Association was chartered in Fall, 1977.

PURPOSE AND PHILOSOPHY

The major purpose of The University of Texas at San Antonio is to respond, in a climate of intellectual freedom and with academic programs of the highest
quality, to the educational needs of the multicultural community of metropolitan San Antonio and the South Texas region, the State of Texas, the nation, and the international community. The University is committed to excellence in teaching and scholarship and to flexibility in academic programs and instructional approaches, as it seeks to guide individual students toward achievement of their maximum potential.

Through programs of a multidisciplinary character, UT San Antonio strives to eliminate the isolation of disciplines and to reflect the integrated nature of societal issues and problems. The University is committed to cooperation with all institutions of higher education in San Antonio and the surrounding region and is a member of the Higher Education Council of San Antonio. UT San Antonio also cooperates with the San Antonio community to improve accessibility to library resources; to provide internships with local professions and businesses; to offer continuing education institutes, seminars, and special activities; and to utilize local, non-university personnel with special talents and abilities to enrich classroom instruction. To serve the metropolitan area of Bexar County, The University offers courses and programs on off-campus locations in the urban area where a need is demonstrated, provided their academic quality can be maintained in the off-campus location.

The mission of The University of Texas at San Antonio is to provide intellectual, cultural, and economic opportunities to its multiple constituencies.

ORGANIZATION

The University of Texas at San Antonio is a component institution of The University of Texas System. Governance of The University is vested in the nine-member Board of Regents of The University of Texas System whose members are appointed biennially by the Governor, with the advice and consent of the Senate, for six-year staggered terms.

The Board of Regents delegates administrative authority to the President of The University of Texas System. The administrative authority of each component institution, such as The University of Texas at San Antonio, is in turn delegated to the President of that component.

The President at UT San Antonio is assisted by a staff including a Vice President for Academic Affairs, a Vice President for Administration, and a Vice President for Business Affairs. The Vice President for Academic Affairs provides the President with advice and counsel on academic matters and acts as liaison between the President’s Office and the several Deans as well as with faculty committees concerned with academic affairs. With approval of the Board of Regents of a non-traditional administrative structure for graduate education at UT San Antonio, the administrative functions that ordinarily are the responsibility of a Graduate Dean are carried out by the Vice President for Academic Affairs. As the administrative officer responsible for graduate education, this officer chairs the Council on Graduate Education. The Vice President for Administration is responsible for assisting the President in handling internal and external administrative matters and in discharging special assignments as requested by the President. The Vice President for Business Affairs provides the President with advice and counsel on fiscal affairs and has direct responsibility for the business operation of The University including operation of the physical plant. This officer is responsible for budget preparation and analysis.

Operational administration of the graduate and undergraduate programs of The University is the responsibility of the Deans of the five Colleges. The Deans
report directly to the President. They provide leadership in program, faculty, and staff development.

Instructional programs within the Colleges are organized by Divisions, headed by Division Directors, who have responsibility under the Dean for the operation of their Divisions. Division Directors also are expected to provide leadership in faculty and staff development and in academic program development.

Continuing Education activities of The University are located in the Division of Continuing Education. The Division is administered by a Dean who reports directly to the President and who is responsible for developing and operating all continuing education activities. The Division develops, promotes, coordinates, evaluates, and provides financial and logistical support for conferences, institutes, short courses, workshops, seminars, and special training programs. The Division has no permanently assigned faculty. Instructors for the various activities are selected from one or more of the five Colleges within The University of Texas at San Antonio, or from institutions or organizations outside The University.

ACCREDITATION

The University of Texas at San Antonio was granted full accreditation at the graduate level by the Southern Association of Colleges and Schools in December 1974 and full accreditation at the undergraduate level in December 1976. Because accreditation applies retroactively within the year awarded, all UT San Antonio degrees have been awarded by an accredited institution.

THE JOHN PEACE LIBRARY

The John Peace Library of The University of Texas at San Antonio, named in 1974 in honor of the late former Chairman of The University of Texas System Board of Regents, has undergone rapid development and expansion since 1972, when work began on the development of collections. As of Fall 1977 the available collections of the library numbered 203,000 processed volumes, 56,350 volumes in microform; 40,900 federal, state and local documents; and 425,548 pieces of microforms. The library subscribes to approximately 2,741 periodicals and receives as a designated depository a wide variety of federal, state, and local documents. In addition, the library has extensive holdings in microform of governmental documents, research reports, and newspapers. All materials have been selected to support the teaching and research needs of UT San Antonio.

The UT San Antonio special collections and rare books focus on Western Americana and on Texana. A truly distinguished collection of books and documents for research in the period of the Texas Republic has been made available through the generosity of the late John Peace. The Ewing Halsell Foundation provided funds for purchase of the Morris Cook J. Frank Dobie Collection. The library has also acquired a large collection of Western Americana from R. D. Warden of Montana. In addition, the library holds the architecture collection of Ralph H. Cameron and the Bible collection of Harry and Alma Dietert. The Piper Foundation assisted The University in the purchase of The San Antonio Collection, an extensive collection of materials on the history of San Antonio.

UT San Antonio is a participant in the Regional Historical Depository Program sponsored by the Texas State Library. This archive preserves and makes available to researchers a wide variety of public and private documents from a
22-county region surrounding San Antonio. The archive is housed at the Institute of Texan Cultures.

The library building is designed to offer full services and convenience to students and faculty. The majority of books and periodicals are on open shelves for browsing and ease of access. In addition to the traditional library facilities, the John Peace Library also has full audio-visual capability and music listening facilities. Carrels, group study rooms, lounges, and faculty studies are conveniently located throughout the building to provide ideal study conditions. A required lower-division course orients students in the use of libraries in general and the John Peace Library in particular. A staff of highly qualified subject-specialist librarians is available for consultation and assistance.¹

THE COMPUTER CENTER

The Computer Center provides modern computational facilities for research and academic programs. An intermediate scale computer is available for student and faculty use. An IBM 370 model 148 is being utilized to support the academic computing requirements.

THE LUTCHER CENTER

The Lutcher Center is a conference facility of The University of Texas System. Responsibility for administration and supervision of the Lutcher Center is assigned to the President of The University of Texas at San Antonio.

The Lutcher Center supports the administrative and developmental programs of The University of Texas System and its component institutions. It also provides space, facilities, and services for educational and public service programs of component units of The University of Texas System. The Center may also be used by other public and private educational institutions and by groups engaged in public service.

THE INSTITUTE OF TEXAN CULTURES

The Institute, located on HemisFair Plaza in downtown San Antonio, is a statewide educational research and dissemination center focusing on Texas History and culture. This center is concerned principally with collecting, organizing, and interpreting information on Texas subjects and with producing films, filmstrips, slides, tapes, publications, and exhibits on these subjects for state-wide use on television, in classrooms, in museums, and at public gatherings for the benefit of the people of Texas.

Offices and classrooms of the Division of Continuing Education are located in the Institute.

THE CENTER FOR STUDIES IN BUSINESS, ECONOMICS, AND HUMAN RESOURCES

The Center for Studies in Business, Economics, and Human Resources is the research center of the College of Business. The major objective of the Center is to provide students and faculty of The University with an adequate environment for problem solving and community-related research. While the Center is an integral part of the College of Business, it interacts with the faculty of the other Colleges to provide an interdisciplinary approach to research and business education.

¹Additional information on the John Peace Library and on its borrowing regulations may be obtained in the Library.
The focus of activity at the Center is on application of theories and research techniques to produce useful information for public and private decision making. Specialized data files are maintained on a continuing basis, while a research library and information systems guide interested users to sources of information. The knowledge and experience of The University's faculty are utilized to solve specific problems in the broad categories of management, finance, administration, planning, economic feasibility, production, economic impact, anti-trust laws and procedures, international trade, environmental protection, and manpower utilization. Graduate students have the opportunity of applying research methods through research assistantships. Discourse between academicians, specialists, community leaders, and students is encouraged through conferences and seminars which bring well-known scholars and professionals to San Antonio.

CENTER FOR ARCHAEOLOGICAL RESEARCH

The Center for Archaeological Research (in the Division of Social Sciences, College of Humanities and Social Sciences) was established in September, 1974. Among its objectives are: (1) the training of students in archaeology; (2) the promotion of archaeological research in the South and South Central Texas region; (3) carrying out archaeological surveys and assignments for federal and state agencies as required by legislation and executive orders; (4) aiding local agencies and citizens who need the services of trained archaeologists.

The Center's staff includes a number of graduate and undergraduate students. They, along with other Center personnel, have conducted archaeological investigations in various parts of Texas, particularly in the South, Southwest, and Central sections of the state. Results of these investigations are published in the Center's three publication series: Archaeological Survey Reports, Regional Studies, and Special Reports. The Center has administered more than 50 contracts and grants to date, among which was a two-year study of the archaeology and ethnohistory of the Spanish mission complex at Guerrero, Mexico. The Center has also helped to organize and support regional archaeological surveys and excavations and has participated in local, state, and international archaeological conferences.

CENTER FOR APPLIED RESEARCH AND TECHNOLOGY

The Center for Applied Research and Technology (CART) is the research center of the College of Sciences and Mathematics. The major goals of CART are to provide for expanded research opportunities in the applied sciences for faculty and graduate students, to provide an educational opportunity whereby individual skills can be developed to fill employers' needs for applied scientists, and to provide research-related services for the community at large. Although CART is a part of the College of Sciences and Mathematics, it interacts with the faculty of other Colleges and with the local research community through the Southwest Research Consortium.

CART serves as a focal point for applied science research activities at The University by providing guidance and programs for contract and grant management and by furnishing analytical services and research support for faculty and students. Exceptional students have an opportunity to gain valuable work experience through CART's technical services and research programs.

The CART staff includes faculty, research associates, students, and other technical and support personnel. Emphasis is on interdisciplinary research in the
earth, life, and physical sciences. Efforts have been concentrated in chemical, environmental, energy, and health-related studies.

Specifically, research teams have been formed recently to conduct investigations in such diverse areas as "Histological-Histopathological Survey of Macropifauna and Demersal Fishes," "Health Implications of Sewage Treatment Plants," "Health Effects Associated with the Application of Wastewater to Land," and "Quinuclidine Compounds. Efficient New Syntheses of Hypotensives, Antimalarials, and Antiarrhythmics."

CENTER FOR LEARNING AND DEVELOPMENT RESEARCH IN EDUCATION

The Center for Learning and Development Research in Education, located in the College of Multidisciplinary Studies, is designed to stimulate basic and applied research in learning and development, particularly as it refers to the educational process. Faculty and students from this College, as well as faculty and students from other Colleges of The University, are encouraged to study problems appropriate to this area. The objectives of the Center include: promotion of research in learning and development in education; development of cooperative faculty-student research; cooperation with school districts, social service agencies, and community agencies on problems of mutual interest; and solicitation of funds for appropriate activities.

The Center's role consists of identifying and coordinating faculty, student, and community interests, needs, and resources. Faculty members from the College and The University, with interest and training in learning and development in education, participate in projects related to the Center's activity.

RESEARCH CENTER FOR THE ARTS

The Research Center for the Arts was established in the College of Fine and Applied Arts on September 1, 1977. The Center's activities encompass the visual and performing arts (studio art, architecture and music), art and architectural history, and art criticism. A primary focus of the Center is on the latter disciplines with special reference to the study of Iberian and Interamerican arts. These disciplines by their scholarly nature form the nucleus of the Center's activities. Among the goals of the Center are to provide assistance to faculty, students and other persons interested in pursuing research and further studies, and to make available general information on the arts of Spain, Portugal, and the Americas. The Center by so doing takes advantage of the strengths of the courses and programs of the College and University.

The Center fosters professional research in the visual and performing arts (studio art, architecture and music) in general and in Iberian and Interamerican art historical research in particular. It provides the opportunities for faculty and students in the College to continue their own research and to serve the community of scholars within and outside The University.

THE UNIVERSITY BOOKSTORE

The University Bookstore, owned and operated by UT San Antonio, is located on the first level of the Science-Education Building adjacent to the Student Lounge. The Bookstore provides a complete stock of all required and recommended books for UT San Antonio courses. In addition, the University Bookstore carries a complete line of general school supplies, writing instruments, art materials, soft goods, decals, greeting cards, and a variety of gift items.
THE UNIVERSITY CAFETERIA

The University Cafeteria, located in the heart of the campus on the first level of the John Peace Library, provides meals and fountain service to the university community. Owned and operated by UT San Antonio, the Cafeteria serves breakfast, hot lunches, and features short orders, soft drinks, and fountain items. Catering for both large and small groups is available. Further information may be obtained from the Cafeteria.
III. TUITION, FEES, CHARGES, PENALTIES AND DEPOSITS
PAYMENT

Students are entitled to enter class or laboratory only after their tuition, fees, and deposits have been paid. Payment may be made by personal check for the exact amount due, provided the bank transit number is encoded thereon in compliance with revised Federal Reserve Bank regulations. Checks for larger amounts, if the difference is to be paid in cash to the students, cannot be accepted. In paying by check, students should exercise care. A bad check, whether given by mistake or otherwise, unless it is the admitted error of the bank concerned, is likely to delay actual payment and thus result in a penalty as outlined in the section on Bad Check Charges.

Personal checks may be cashed in the University Bookstore for an amount up to $20.00. It is recommended that students establish checking accounts in local San Antonio banks before enrolling in order that they can easily cash checks in the city. Many local merchants will not cash out-of-town checks.

TUITION

Pursuant to Subchapter B, Chapter 54, Texas Education Code, each student who registers at UT San Antonio is required to pay tuition according to the number of semester credit hours for which registration is completed and according to his/her residence classification, as set forth in the tables below:

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*All tuition charges and fees are subject to change without notice.

*See the Exemption from Tuition and Fees section in this section of the catalog.

*Tuition for resident or nonresident students registered for thesis or dissertation credit only is $12.00 for residents of Texas and $50.00 for nonresidents (U.S. citizens and foreign students) in those instances where such credit is the final credit-hour requirement for the degree in progress. For residence regulations, consult the Director of Admissions and Registrar.

Foreign students who registered for the first time before June 20, 1975 are charged $14.00 per semester hour, with a minimum of $200.00 per semester.

Foreign students who register for the first time after June 19, 1975 are charged $40.00 per semester hour of credit, unless (1) an exception for financial need can be demonstrated through the Student Financial Aid Office; or (2) the Coordinating Board, Texas College and University System, certifies that the student's home country charges U.S. citizens at publicly funded colleges and universities a tuition fee equal to or less than $200.00 per semester. Students in (1) and (2) above are charged the previous tuition fee of $14.00 per semester hour, with a minimum of $200.00 per semester.
TUITION, FEES, CHARGES, PENALTIES AND DEPOSITS

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<td>80.00</td>
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<td>32.00</td>
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<td>320.00</td>
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<td>36.00</td>
<td>50.00</td>
<td>360.00</td>
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<td>480.00</td>
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<td>13</td>
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<td>52.00</td>
<td>520.00</td>
<td>182.00</td>
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<td>14</td>
<td>56.00</td>
<td>56.00</td>
<td>560.00</td>
<td>196.00</td>
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<tr>
<td>Each Additional Hour</td>
<td>4.00</td>
<td>4.00</td>
<td>40.00</td>
<td>14.00</td>
</tr>
</tbody>
</table>

CONCURRENT TUITION

Students who register at more than one public institution of higher education in Texas concurrently may receive the benefits of a lower tuition rate. If at the time of registration, a student can produce evidence of having already paid his or her tuition at another public institution of higher education in Texas, the student should present such evidence at the Fee Assessment station during registration.

*TUITION for resident or nonresident students registered for thesis or dissertation credit only is $12.00 for residents of Texas and $50.00 for nonresidents (U.S. citizens and foreign students) in those instances where such credit is the final credit-hour requirement for the degree in progress.

*Foreign students who registered for the first time before June 20, 1975 are charged $14.00 per semester hour, with a minimum of $100 per summer term and $150.00 for entire summer term.

Foreign students who register for the first time after June 19, 1975 are charged $40.00 per semester hour of credit, unless (1) an exception for financial need can be demonstrated through the Student Financial Aid Office, or (2) the Coordinating Board, Texas College and University System, certifies that the student's home country charges U.S. Citizens at publicly funded colleges and universities a tuition fee equal to or less than $200 per semester, or $100.00 per summer term or comparable period. Students in (1) and (2) above are charged the previous tuition fee of $14.00 per semester hour, with a minimum of $100 per term and $150 for entire summer term.
RESIDENCE REGULATIONS

A student entering or re-entering The University of Texas at San Antonio may be required to file a residence questionnaire. The student's status as a resident or nonresident will be made in accordance with the Texas Education Code. If the applicant has any doubt about his status, he/she should consult the Director of Admissions and Registrar prior to registration. There can be no change in residence classification except under the express authorization of the Registrar.

PENALTY OF TUITION UNDER INCORRECT RESIDENCE CLASSIFICATION

Responsibility for registering under the proper residence classification rests with the student. A student who wrongly pays the Texas, rather than the nonresident, tuition is subject to a penalty of $100.00 for each registration under incorrect residence classification. In addition, if a student has obtained residence classification by virtue of deliberate concealment or misrepresentation of facts, he/she may be subject to disciplinary action.

GENERAL FEE AND STUDENT SERVICES FEE

Each student who registers at UT San Antonio is required to pay general fees and service fees according to the number of semester credit hours for which registration is completed, as set forth in the table below:

<table>
<thead>
<tr>
<th>SEMESTER HOURS</th>
<th>GENERAL FEE</th>
<th>STUDENT SERVICE FEE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6.00</td>
<td>2.50</td>
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<tr>
<td>2</td>
<td>12.00</td>
<td>5.00</td>
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<tr>
<td>3</td>
<td>18.00</td>
<td>7.50</td>
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<tr>
<td>4</td>
<td>24.00</td>
<td>10.00</td>
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<tr>
<td>5</td>
<td>30.00</td>
<td>12.50</td>
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<tr>
<td>6</td>
<td>36.00</td>
<td>15.00</td>
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<tr>
<td>7</td>
<td>42.00</td>
<td>17.50</td>
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<tr>
<td>8</td>
<td>48.00</td>
<td>20.00</td>
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<tr>
<td>9</td>
<td>54.00</td>
<td>22.50</td>
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<tr>
<td>10</td>
<td>60.00</td>
<td>25.00</td>
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<tr>
<td>11</td>
<td>66.00</td>
<td>27.50</td>
</tr>
<tr>
<td>12</td>
<td>72.00</td>
<td>30.00</td>
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<tr>
<td>13</td>
<td>78.00</td>
<td>30.00</td>
</tr>
<tr>
<td>14</td>
<td>84.00</td>
<td>30.00</td>
</tr>
<tr>
<td>15</td>
<td>90.00</td>
<td>30.00</td>
</tr>
<tr>
<td>Each Additional Hour</td>
<td>6.00</td>
<td>-0-</td>
</tr>
</tbody>
</table>

DEGREE APPLICATION FEE

An $8.00 application fee is required of candidates for a degree. Application for a degree must be made at the Registrar's Office and the fee paid no later than the end of the add/drop period of the term (Fall, Spring, or Second Summer Term) in which the student plans to graduate. This fee must be paid only once for the same degree. The fee is not refundable. Cap and gown rental is not provided as part of the degree application fee.

*A detailed description of the residence regulations may be obtained from the Office of Admissions and Registrar. See the Exemption from Tuition and Fees in this section of the catalog. The General Fee is authorized by statute for use and availability of university buildings and facilities.
Veterans attending The University under an exemption are not exempt from payment of this fee.

**THESIS BINDING FEE**
A fee of $5.00 per copy is charged for binding the two official copies of the thesis to be filed with The University.

**LATE REGISTRATION FEE**
A late registration fee of $5.00 is charged for the first day of late registration, and an additional $2.50 per day is assessed thereafter. The maximum late registration fee for any one term is $15.00. This fee may be waived only in extenuating circumstances by the President or his delegate. The late registration fee is not refundable.

**LIBRARY DEPOSIT FOR LIMITED BORROWER’S CARD**
Limited Borrowers are defined in the Appendix of this catalog. By depositing $15.00, a Texas resident may obtain a Limited Borrower’s Card for borrowing unrestricted materials in person; this deposit is also required for non-students who are auditing UT San Antonio courses and who wish Library privileges. Persons holding a Limited Borrower’s Card are charged a fee of $3.00 (plus copying costs, if any) for each interlibrary loan request. The $15.00 deposit is refundable upon return of the Borrower’s Card.

**LIBRARY FINES FOR OVERDUE MATERIALS AND FOR LOST OR DAMAGED ITEMS**
Fines are charged for overdue library materials and for library items that are lost or damaged.

**BAD CHECK CHARGE**
A charge of $5.00 is assessed for each returned check to offset the cost of handling dishonored checks. The University will not accept a check from a student who wittingly or unwittingly has previously given two bad checks.

**REPLACEMENT OF STUDENT IDENTIFICATION CARD CHARGE**
A charge of $2.00 is assessed for the issuance of a duplicate student identification card. This charge must be paid at the time the application for the duplicate is made.

**TRANSCRIPT CHARGE**
A charge of $1.00 is made for each UT San Antonio transcript. This fee must be paid before a transcript will be issued.

**LABORATORY FEE**
In certain courses a laboratory fee, not to exceed the actual cost of materials and supplies and not less than $2.00 nor more than $8.00, may be charged. When a laboratory fee is charged, the schedule of classes indicates the asso-

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8See the Exemption from Tuition and Fees in this section of the catalog.
9Borrowing and fine regulations of the John Peace Library are available in the Library.
TUITION, FEES, CHARGES, PENALTIES AND DEPOSITS

Associated fee. For each course which involves the use of computers in instruction, a laboratory fee of $8.00 is charged.

SUPPLEMENTARY AND SPECIAL FEES

Certain art, music and other courses may require supplementary or special fees. When such fees are charged, the schedule of classes indicates the associated fee.

AUDITING FEE

All auditors of courses must submit an approved Request for Audit Form to the Registrar.

Students registered at UT San Antonio may, with the approval of the instructor and Dean of the College in which the course is offered, audit courses by paying an auditing fee of $5.00 per course. The audit fee is not refundable.

Upon approval of a Request for Audit Form, a non-student auditor must pay an auditing fee of $25.00 per course. The fee is not refundable. Non-students over 65 are permitted to audit without paying a fee, provided space is available and a Request for Audit Form is approved. Non-student auditors who wish library privileges may receive them by paying a non-student library deposit (Limited Borrower’s Deposit) of $15.00 at the John Peace Library.

Permission to audit may be obtained and fees paid only during the late registration period.

PARKING FEES

Parking fees for students are as follows:

<table>
<thead>
<tr>
<th>Class</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>$12.00 Student parking permit</td>
</tr>
<tr>
<td></td>
<td>8.00 if purchased during the spring semester</td>
</tr>
<tr>
<td></td>
<td>4.00 if purchased during summer session</td>
</tr>
<tr>
<td>D</td>
<td>6.00 Motorcycles, motor scooters, motor bicycles</td>
</tr>
<tr>
<td></td>
<td>4.00 if purchased during the spring semester</td>
</tr>
<tr>
<td></td>
<td>2.00 if purchased during summer session</td>
</tr>
<tr>
<td>M</td>
<td>1.00 Bicycles</td>
</tr>
<tr>
<td></td>
<td>.50 for less than twelve months</td>
</tr>
</tbody>
</table>

Student vehicles bearing valid State of Texas Disabled Veteran’s license plates are exempt from the payment of parking fees. A partial refund is made for any remaining term(s) in which the student does not enroll. Applications for such refunds may be obtained from the Bursar’s Office.

FIELD TRIP FEE

A supplementary fee is assessed students in certain courses to pay for the expenses of field trips.

PHYSICAL INSTRUCTION LABORATORY FEE

A fee of $4.00 for a semester or a summer term is required of every student registering for physical education activity class. Lockers, locks, and towels are provided.
TUITION, FEES, CHARGES, PENALTIES AND DEPOSITS / 33

STUDENT GYMNASIUM AND FACILITY USE FEE

UT San Antonio students not registered for physical education activity classes who desire to use the facilities or use a locker and a lock may obtain it by paying a fee of $2.00 for a semester or summer session or any part thereof. Towels are not provided.

UTSA AND PERSONNEL GYMNASIUM AND FACILITY USE FEE

Faculty and staff gymnasium and facilities use fees are required. Faculty and staff (including guests) desiring the use of the Convocation Center and Gymnasium and other recreational facilities may use these facilities at specified hours only, and are charged fees according to the following schedule. Lockers and locks are provided. In order for a spouse or child to use the facilities, the student, faculty, or staff member must first pay his/her use fee.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>ANNUAL FEE</th>
</tr>
</thead>
<tbody>
<tr>
<td>UTSA and Personnel</td>
<td></td>
</tr>
<tr>
<td>1. Faculty-staff member</td>
<td>$12.00</td>
</tr>
<tr>
<td>2. Faculty-staff spouse</td>
<td>6.00</td>
</tr>
<tr>
<td>3. Faculty-staff child</td>
<td>3.00 (maximum of $25.00 per family)</td>
</tr>
<tr>
<td>4. Student spouse</td>
<td>3.00</td>
</tr>
<tr>
<td>5. Student child</td>
<td>1.00</td>
</tr>
<tr>
<td>Guest Fee</td>
<td></td>
</tr>
<tr>
<td>1. Guest of UT San Antonio student, faculty member, or staff member</td>
<td>1.00</td>
</tr>
</tbody>
</table>

These fees are non-refundable.

TENNIS CENTER FEE

A UTSA student's use of the Tennis Center is included in the $2.00 Gymnasium and Facility Use Fee or the $4.00 Physical Instruction Laboratory. Fees for use of the Tennis Center by faculty and staff will be established at a future date.

DUPLICATE FEE RECEIPT

A service charge of $1.00 is assessed for the issuance of a duplicate fee receipt. This charge must be paid at the time the application for a duplicate fee receipt is made.

GENERAL PROPERTY DEPOSIT

Every student must make a general property deposit of $10.00 at the time of initial registration to protect The University from losses, such as property loss, damage, or breakage, violation of rules in any University library or laboratory, failure to return keys furnished by The University, or damage to or loss of any other University property. Charges are billed directly to the student or are collected by the department upon reissue of supplies or property. Failure to pay the charges promptly results in denial of the student's readmission or re-enrollment, and in refusal to issue the student's transcript by The University. The property deposit records are reviewed periodically and if charges have
been made against the deposit, the student shall be required to bring the de-
posit up to $10.00.
The deposit is refunded upon request, less outstanding charges, only when the
student officially withdraws from school or graduates. A general property de-
posit which remains without call for refund for a period of four years from the
date of last attendance at The University shall be forfeited, and the deposit
shall become operative to the permanent use and purpose of student scholar-
ships.

**CAREER PLANNING AND PLACEMENT REGISTRATION FEE**

UT San Antonio students and alumni interested in a credential file for employ-
ment purposes or for application to graduate or professional school, are invited
to use the services of the Career Planning and Placement Center. There is no
registration fee for students currently attending UT San Antonio. There is a
$3.00 fee for alumni who are interested in using the Career Planning and Place-
ment Center services after leaving UT San Antonio. Active registrants may
make use of the full range of services offered by the Center, e.g., on-campus
interviewing, part-time job service, resume and interview seminars, vacancy
listings, direct job referral, and duplication and mailing of credential file mate-
rials to prospective employers.

**TEACHER PLACEMENT SERVICE FEE**

Presently enrolled students of The University of Texas at San Antonio may reg-
ister for teacher placement services with the Office of Teacher Certification
and Placement on a no fee basis. UT San Antonio alumni are assessed a $3.00
annual fee for the same services. Both students and alumni receive, as part of
their registration, the preparation, duplication and maintenance of three cre-
dential sets. A fee of $1.00 is assessed for each additional set requested by the
registrant during his/her current year of registration.

**PROFESSIONAL LIABILITY (MALPRACTICE) INSURANCE**

Prior to official registration for courses that place them in a clinical situation,
allied health students are required under the Rules and Regulations of The Uni-
versity of Texas System Board of Regents to show evidence of professional
liability (malpractice) insurance coverage. The Director of the Division of Allied
Health and Life Sciences may be consulted relative to obtaining such insur-
ance.

**EXEMPTION FROM TUITION AND FEES**

The Statutes of the State of Texas prescribe certain cases in which students can
be exempted from tuition and/or certain fees. The various types of exemptions
and the fees to which such exemptions apply are described below; however, in
each case it is the student’s responsibility to initiate the action of applying for an
exemption through the Registrar’s Office and providing satisfactory evidence
that all conditions required for the exemption have been met. Until such time as
the exemption is granted, a student will be required to pay all tuition and fees
from his or her own funds. Students who might be eligible for an exemption
should apply for the exemption at the Registrar’s Office at least one month prior
to registration of the term in which they plan to utilize the exemption provision.

*Exemption of Texas ex-service personnel.* Legal residents of Texas are ex-
empted from tuition and all fees and charges, except property deposit fees, stu-
dent services fees and any fees or charges for lodging, board, or clothing, when they meet all the following criteria prior to the end of the registration period for the term that the exemption is claimed:

1. They have resided in Texas for a period of not less than twelve (12) months prior to the date of registration.
2. They served in the armed forces or in certain auxiliary services in World War I, World War II, the Korean conflict, or the Cold War. If service was in the Cold War, they must have served on active military duty (other than for training) for more than 180 days.
3. They were bona fide legal residents of the state at the time of entering service.
4. They were honorably discharged from service (those who served in World War II and who were discharged because of being over the age of thirty-eight or because of a personal request are not eligible for this exemption).
5. They are not eligible for education benefits provided for veterans by the United States Government.

Benefits for children of Texas veterans. Exemption from payment of tuition and all fees and charges, except property deposit fees, student services fees and any fees or charges for lodging, board or clothing, is extended to children of members of the armed forces who were killed in action or died while in the service in World War II or in the Korean conflict or in the Cold War and to orphans of members of the Texas National Guard killed since January 1, 1946, while on active duty.

Exemption of children of certain disabled public employees. Children of certain firemen, peace officers, employees of the Texas Department of Corrections, and game wardens who have suffered injury resulting in death or disability sustained in the line of duty are exempt from payment of all tuition, fees, and charges except general property deposit or to fees or charges for lodging, board, or clothing.

Exemption of certain deaf and blind students. Blind or deaf persons who are Texas residents are, under certain conditions, exempt from payment of tuition and all fees and charges, except any fees or charges for lodging, board, or clothing.

Children of prisoners of war or persons missing in action. A dependent child under 21 years of age, or a person under 25 years of age who receives the majority of support from his or her parent or parents, is exempted from the payment of tuition and all fees and charges, except property deposit fees and any fees or charges for lodging, board, or clothing, if he or she is the dependent child of any person who is a domiciliary of Texas on active duty as a member of the armed forces of the United States and who at the time of registration is classified by the Department of Defense as a prisoner of war or as missing in action.

General Fee. When the payment of this required fee causes undue hardship, a student may receive an exemption from payment of the fee by making application through the Office of Student Financial Aid. Exemptions are limited to 5% of the total enrollment.

REFUND POLICY AND ADJUSTMENT OF FEES FOR STUDENTS WITHDRAWING, ADDING, OR DROPPING COURSES

A student who officially withdraws from The University prior to the first class day will be refunded 100% of collected tuition and returnable fees, but will be as-
sessed a $15.00 matriculation fee. This fee will be deducted from the balance of tuition and refundable fees owed to the student.

In a semester, upon surrender of the student identification card, a student withdrawing officially a) during the first five class days receives a refund of 80 percent of the applicable portion of the tuition and fees; b) during the second five class days, 70 percent; c) during the third five class days, 50 percent; d) during the fourth five class days, 25 percent; e) after the fourth five class days, no refund. In a summer term, a student withdrawing officially a) during the first, second, or third class day receives a refund of 80 percent of the applicable portion of the tuition and fees; b) during the fourth, fifth, or sixth day, 50 percent; c) the seventh day of class and thereafter, no refund.11

A student who enrolls in The University for a given term and who is subsequently required to withdraw because of academic dismissal the previous term, receives a refund of all tuition and fees and is not assessed the $15.00 matriculation fee.

Refunds of tuition, applicable fees, general fees, and student service fees are made for courses dropped within the first twelve class days in the fall and spring or within the first four class days in a summer term if the student paid more than the minimum required and if the student has dropped below the total number of hours for which he or she originally was registered. Tuition and applicable fees for added courses are billed to the student.

The University will refund tuition and fees paid by a sponsor, donor or scholarship to the source rather than directly to the student who has withdrawn if the funds were made available through the institution.

No refunds are made until 15 days have elapsed from the time fees were paid unless the fees were paid in cash or by money order. Refund checks are mailed to the address indicated when the student withdraws from The University. Students entitled to refunds should allow ten working days after the fifteen days clearing period for receipt of the refund.

The University reserves the right to deduct from the refund any outstanding financial obligations owed The University.

DEBTS OWED THE UNIVERSITY

In the event of non-payment of debts owed to The University (or failure to meet admission requirements), any of the following actions may be taken:

1. Denial of re-admission of the student.
2. Denial of further registration.
3. Withholding of official transcripts.
4. Withholding a diploma to which the student would otherwise be entitled.

When a student has any of the above actions against his or her record it is the student's responsibility to clear any obligations with The University and see that the Registrar's Office is notified. No further services of The University will be provided until all obligations are cleared.

A student who pays tuition and fees with a check which is not subsequently honored by a bank and the fault is not that of the bank and who does not make payment within five days will be withdrawn from The University by the Registrar for non-payment of tuition and fees.

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11These refund percentages are applicable to tuition, the supplementary fees, the general fee, laboratory fees, and the student services fees.
IV. INSTITUTIONAL POLICIES CONCERNING STUDENTS
INSTITUTIONAL POLICIES CONCERNING STUDENTS

RULES AND REGULATIONS OF THE BOARD OF REGENTS

All students of The University of Texas at San Antonio are subject to the rules and regulations governing student conduct and discipline as set out in the Rules and Regulations of the Board of Regents of The University of Texas System and in the UT San Antonio Institutional Rules on Student Services and Activities. The Regents' Rules and the Institutional Rules on Student Services and Activities have full force and effect as they concern all UT San Antonio students. The Regents' Rules may be consulted in the offices of the President, the Vice Presidents, and the Deans and in the John Peace Library.

A student at The University neither loses the rights nor escapes the responsibilities of citizenship. He or she is expected to comply with both the penal and civil statutes of the State and the Federal government, the Rules and Regulations of the Board of Regents, and the policies and procedures of The University of Texas at San Antonio.

The Institutional Rules on Student Services and Activities may be obtained in the Office of the Dean of Students.

STUDENT HEALTH SERVICES

The Application for Admission to The University of Texas at San Antonio includes an Immunization Record Form. This form must be completed by the student's family physician and returned to The University Student Health Center before the student can register.

When The University is in session, a registered nurse is on duty during class hours, and, when needed, a referral is made to a physician for medical treatment. The University Student Health Center has only limited medical capabilities.

Students are advised to carry health and accident insurance. Out-of-town students should have documents to verify insurance coverage to avoid possible delays in obtaining medical treatment.

COUNSELING CENTER

The Counseling Center provides professional services which are designed to help meet the personal and developmental needs of UT San Antonio students. Individual or group sessions are available for students seeking personal, educational, or vocational counseling. Counseling psychologists in the Center deal with a variety of student concerns and utilize counseling techniques, psychological assessment, and other aids to assist students. All counseling is free, confidential, and on a voluntary basis.

TESTING CENTER

The Testing Center provides a university-wide testing service. National tests are given on national testing dates. For the student seeking a better self-understanding, interest and personality inventories, achievement tests, and intelligence tests may be scheduled by appointment in the Testing Center.

FINANCIAL AID

Loans, scholarships and grants-in-aid are administered through the Office of Student Financial Aid. Financial aid counseling for students and/or parents is an
integral part of the total financial aid function. Applicants are urged to contact the UT San Antonio Office of Student Financial Aid about advice concerning opportunities for self-help and sources of financial aid and guidance that will assist them in making decisions about financing their education. An appointment with the Director of Student Financial Aid is encouraged for this purpose.

Application forms and information on how to apply are available at the Office of Student Financial Aid. Eligible students are notified of the amount and sources of financial aid only after they have been admitted officially to The University. Therefore, applicants should apply for admission before or at the same time they apply for financial aid.

In addition to providing scholarships and loan funds, UT San Antonio participates in state and federal financial aid programs, such as the College Work-Study Program, the Hinson-Hazlewood Loan Program, the Federally Insured Student Loan Program, the Veteran's Administration Educational Loan Program, and the Law Enforcement Education Program. A limited number of scholarships is also available to students with high academic credentials and financial need. Non-interest, short-term emergency loans of up to $120.00 are available to students. These are repayable during the semester in which they are incurred.

Scholastic aptitude and financial need are important factors in determining eligibility for most programs.

Each financial aid applicant must:

1. File a Financial Aid Statement form with the College Scholarship Service or American College Testing Program for determination of financial need. (Filing a Financial Aid Statement form is unnecessary for students seeking only a Federally Insured Student Loan.)

2. File a UT San Antonio application for Financial Aid with the Office of Student Financial Aid.

3. Meet deadlines set by the Office of Student Financial Aid.

The Texas Rehabilitation Commission offers assistance for tuition and non-refundable fees to students who have certain disabling conditions provided their vocational objectives have been approved by a Texas Rehabilitation Commission counselor. Examples of such conditions are orthopedic deformities, emotional disorders, diabetes, epilepsy, heart conditions, etc. Other services are also available to assist the handicapped student to become employable. Application for such services should be made at the Texas Rehabilitation Commission, 1222 N. Main Avenue, San Antonio, Texas.

**CAREER PLANNING AND PLACEMENT CENTER**

The Career Planning and Placement Center offers a variety of services and programs in response to the placement needs of UT San Antonio students and alumni.¹

To assist students in career development activities the Center provides information on employment opportunities related to their college majors.

This information includes an annual report on the placement activities of our graduating students, average starting salary, the type of positions accepted, and, when available, the relationship between fields of study and accepted positions.

The Center provides the following services: part-time and summer employment opportunities; career placement for students and alumni after graduation; and assistance in the selection of graduate or professional schools. Students and

¹Fees for services of the Career Planning and Placement Center are set forth in Section III of this catalog.
alumni may establish a placement file and use the on-campus interview schedule to meet with representatives from business, industry, and government to explore professional employment opportunities.

Placement programs available at the Center are designed to assist all students in the development of effective job hunting skills and methods, e.g., effective letter writing, launching broadcast mail campaigns, resume development, and interview-skills training. Students are seen on a "drop-in" or appointment basis at the Career Planning and Placement Center.

Students and alumni are encouraged to use the career, vocational, and educational counseling services of the Center and its Career Resource library. Students who have not decided which college major they wish to pursue may participate in the life planning workshops, value clarification labs, decision-making seminars (labs) and career exploration symposia offered by the Center. Vocational testing, including aptitude and interest inventories, is also available.

TEACHER PLACEMENT SERVICE

The Teacher Placement Service, located in the Office of Teacher Certification and Placement, assists students from all Colleges and Divisions within The University of Texas at San Antonio who seek employment in the field of education by facilitating contact and communication between students and employers. The services of the Teacher Placement Service are available to all presently enrolled students, as well as to alumni of The University of Texas at San Antonio.

ATHLETICS

The athletic program at UT San Antonio consists of general recreational activities and intramural programs. The facilities available in either the Convocation Center or the Physical Education Building include gymnasiums for basketball and volleyball, weight machines, badminton and shuffleboard courts and a jogging path. Also available is a 400-meter synthetic track with a grass playing field and a tennis center available. Students are able to participate in tennis, basketball, track, volleyball, badminton, shuffleboard, table tennis, softball, soccer, and touch football.

LIVING ACCOMMODATIONS

The University provides no on-campus housing. Students are responsible for providing their own housing facilities. A housing directory is available in the Office of Community and Student Affairs to assist students in finding living accommodations in the San Antonio community.

IDENTIFICATION CARDS

Student identification cards are mandatory. The card is non-transferable. A replacement cost of $2.00 is charged for lost or mutilated cards.

DIRECTORY INFORMATION

All educational records of students at The University of Texas at San Antonio are maintained in accordance with State and Federal Laws.

*Fees for the Teacher Placement Service are set forth in Section III of this catalog.
Pursuant to the Family Educational Rights and Privacy Act, Directory Information at UT San Antonio includes the following:

- Student's Name
- Current and Permanent Address
- Telephone Listing
- Date and Place of Birth
- Major field of study, including concentration
- Classification
- Schedule of Classes and Number of Hours Enrolled
- Participation in Officially Recognized Activities and Sports
- Weight and Height of Members of Athletic Teams
- Dates of Attendance
- Degrees and Awards Received
- Most Recent Previous Educational Agency or Institution Attended

A student's consent is presumed, unless a written request to restrict the information as confidential is made by the student in the Registrar's Office on a prescribed form no earlier than the first day of registration and no later than the 12th class day in a semester, or the 4th class day in a summer term. This consent or restriction remains in effect for the duration of the semester or summer term and must be refiled each subsequent semester or term that the student wishes to restrict the information. In those cases where a student files a request for restriction of information, such information is treated as confidential, and, in response to public inquiries, The University will verify only whether an individual is currently enrolled at The University.

For more specific information concerning confidentiality of student records or release of information consult the Institutional Rules on Student Services and Activities available in the Office of the Dean of Students.

**ORIENTATION**

An orientation program is available to acquaint new students with the purposes and programs of The University and with the academic advisement and registration procedures.

**LOST AND FOUND**

All personal articles found at The University are placed in the Office of the Dean of Students. Items can be claimed upon proper identification of ownership. After a two week period, all unclaimed articles are transferred to the Campus Security Office.

**HANDICAPPED STUDENTS**

Handicapped students requiring special assistance should contact the Office of the Dean of Students, Division of Community and Student Affairs.

**INTERNATIONAL STUDENTS**

Foreign students who are enrolled at UT San Antonio should contact the Office of the Dean of Students, Division of Community and Student Affairs, for assistance. If possible, contact should be made prior to arrival in the San Antonio area.
V. ADMISSION REQUIREMENTS
ADMISSION REQUIREMENTS

ADMISSION

Admission requirements for graduate study at UT San Antonio are designed so that students admitted will have a high probability of success in graduate level academic work. The criteria for the various classifications of admission to The University of Texas at San Antonio are set forth in the following paragraphs.

ADMISSION AS A GRADUATE DEGREE-SEEKING STUDENT*

Unconditional Admission. Every Master's degree program at The University of Texas at San Antonio is based on the assumption that the students participating in it already possess a general college education to the baccalaureate degree level. In order to be eligible for unconditional admission to UT San Antonio as a degree-seeking student at the graduate level, an applicant must: (1) hold a baccalaureate degree from a regionally accredited college or university in the United States or have proof of equivalent training at a foreign institution; (2) have a "B" average (3.0 on a 4.0 scale) in the last 60 semester hours, or the equivalent, of course work for the baccalaureate degree as well as in all graduate level work previously taken; (3) have completed a minimum of 18 semester hours (12 of which must be upper-division) in the area in which the graduate degree is sought; (4) be accepted into the degree program;* (5) submit scores from the Graduate Record Examination Aptitude Test (GRE) or, for those applying for the M.B.A. program, scores from the Graduate Management Admission Test (GMAT);* and (6) be in good standing at the last institution attended.

Conditional Admission. An applicant desiring to work toward a graduate degree in an area in which his or her previous preparation is insufficient to permit unconditional admission may be admitted conditionally to the graduate degree program with the stipulation that course work or other study as determined by the appropriate Committee on Graduate Studies, the Division Director, and the Dean will be undertaken to remove deficiencies and that such make-up work will be in addition to the regular degree requirements. Any conditions placed on the student's admission are stated in the admission notice. An individual seeking admission as a graduate degree-seeking student whose grade-point average is less than that specified for unconditional admission may be admitted conditionally to a graduate degree program upon the recommendation of the appropriate Committee on Graduate Studies, the Division Director, and the Dean who will assign conditions regarding the number of semester hours to be taken and the minimum grade-point average to be maintained before unconditional status may be attained. In no case may the grade-point average condition be lower than that required for a student to remain in The University as a graduate (degree-seeking, certificate, or special) student. (See the section on Academic Standing.) The student is expected to remove conditions by the end of the first full semester of enrollment. If they are not met, the student may be barred from continuation in the graduate program. An applicant who fails to meet the re-

*When there are more qualified applicants than can be instructed adequately by available faculty or accommodated in available facilities, The University may restrict the admission and enrollment of students.

*A graduate degree-seeking student is one admitted to a graduate degree program. Some graduate degree programs specify additional admission requirements. The applicant should refer to the specific degree descriptions for any admission requirements in addition to the university-wide requirements listed here.

*An individual review of the applicant's background is made by the appropriate Committee on Graduate Studies, the Division Director, and the Dean for the program to which admission is being sought. A committee may be appointed to examine a student in his or her previous preparation before an application to enter the program is approved. No student is admitted in the absence of a favorable recommendation by the appropriate Committee on Graduate Studies, the Division Director of the program, and the Dean of the College.

*Information on the GRE and GMAT and applications for the tests may be obtained from the Educational Testing Service, Princeton, New Jersey 08540. The institution code for The University of Texas at San Antonio is 69195 for the GRE and 6919 for the GMAT.
ADMISSION REQUIREMENTS

Requirements for unconditional admission and is admitted on a conditional basis may be admitted on academic probation.

If an applicant is not eligible for either unconditional or conditional admission, the applicant is denied admission as a graduate degree-seeking student. The appropriate Committee on Graduate Studies, the Division Director, and the Dean may recommend the applicant's admission or denial of admission as a Special Graduate Student (see below).

ADMISSION AS A GRADUATE-LEVEL TEACHER CERTIFICATION STUDENT

In order to be eligible for unconditional admission to The University of Texas at San Antonio as a teacher certification student at the graduate level, an applicant must: (1) be eligible for unconditional admission to the graduate degree program(s) appropriate to the certification program sought and have the approval of the Director of the Division of Education; (2) make application for a specific certificate program; (3) be a U.S. citizen, or have evidence of having made application for citizenship; and (4) hold a valid teacher's certificate in Texas.

An applicant desiring to work toward graduate-level teacher certification in an academic area in which his or her undergraduate preparation is insufficient to permit unconditional admission may be admitted conditionally to the certification program with the stipulation that course work or other study as determined by the appropriate Committee on Graduate Studies, the Division Director, the Dean of the College offering the degree program, and the Director, Office of Teacher Certification and Placement will be undertaken to remove deficiencies and that such make-up work will be in addition to the regular certification requirements. Any conditions placed on the student's admission are stated in the admission notice.

An individual seeking admission as a graduate-level certification student whose grade-point average is less than that required for unconditional admission may be admitted conditionally to a certification program with the approval of the appropriate Committee on Graduate Studies, the Division Director, and the Dean of the College offering the degree program and the Director, Office of Teacher Certification and Placement. Conditions will be assigned regarding the number of semester hours to be taken and the minimum grade-point average to be maintained before unconditional status may be attained. In no case may the grade-point average condition be lower than that required for a student in The University as a graduate (degree, certificate, or special) student. (See the section on Academic Standing.) The student is expected to remove conditions by the end of the first full semester of enrollment. If conditions are not met, the student may be barred from continuation in the certification program. An applicant who fails to meet the requirements for unconditional admission and is admitted on a conditional basis may be admitted on academic probation.

If an applicant is not eligible for either unconditional or conditional admission, the applicant is denied admission as a graduate-level certification student. The appropriate Committee on Graduate Studies, the Division Director, and the Dean may recommend admission or denial of admission as a Special Graduate Student (see below).

* A certificate student is one admitted to a graduate-level teacher certification program. A student admitted to a graduate teacher certification program according to these provisions and simultaneously to a graduate degree program is considered, for classification purposes, to be a graduate degree-seeking student.

* A summary of Graduate Level Teacher Certification Programs is available from the Office of Teacher Certification.
ADMISSION AS A SPECIAL STUDENT AT THE GRADUATE LEVEL

An individual who does not elect to enter either a graduate-level degree or certification program may seek permission to register as a special student in one or more of the Colleges. To be eligible for admission as a special student at the graduate level, an applicant must: (1) be in good standing at the last institution attended; (2) possess at least a bachelor's degree from a regionally accredited college or university or an equivalent degree from a foreign institution; and (3) have grade-point averages of 3.0 or higher (on a 4.0 scale) in the last 30 hours of academic course work prior to receipt of the highest degree and 3.0 or higher in all academic course work since the degree. An applicant who does not meet the above requirements may be recommended for admission as a special student at the graduate level by the appropriate Committee on Graduate Studies, the Division Director, and the Dean(s) of the College(s) in which courses will be taken. In the latter case, admission may be on academic probation.

Special students at the graduate level are eligible to take any graduate or undergraduate courses for which they have the necessary prerequisites, provided space is available and they have the approval of the course instructor(s). Students holding bachelor's degrees who are admitted as special undergraduate students may enroll in undergraduate courses only. If they wish to take courses at the graduate level, they must apply and be admitted as special graduate students.

Credit earned as a special student may be applied toward a Master's degree only when the credits earned for these courses have been evaluated and approved for this purpose by the appropriate Committee on Graduate Studies, the Division Director, and the Dean of the College offering the degree program. The approval of the Director, Office of Teacher Certification and Placement is required before credit earned as a special student can be applied to a graduate-level teacher certification program.

To continue in The University as a special student in a subsequent term, the student must meet the standards required to remain in The University as indicated in the section on Academic Standing.

ADMISSION AS A TRANSIENT STUDENT AT THE GRADUATE LEVEL

An applicant who wishes to enroll, normally for one session only, without pursuing a degree or a graduate-level teacher's certificate at The University of Texas at San Antonio should apply for admission as a transient student. In order to qualify as a transient student at the graduate level, the applicant must hold at least a baccalaureate degree from a regionally accredited college or university and be in good standing at the last institution attended.

Transient students may register for any courses for which they have the necessary prerequisites, the approval of the course instructor(s), and in which space is available. A student registered in this capacity normally cannot register for a subsequent term unless he or she has been admitted as a degree-seeking, certification, or special student.

ADMISSION OF INTERNATIONAL STUDENTS

The following admission requirements pertain to all applicants for admission who are not citizens of the United States or whose previous education has been...
outside the United States. All applicants for admission as international students must:

1. Meet the graduate admission requirements for degree-seeking students. Individuals who will be on a student visa may not be admitted other than as degree-seeking or transient students. (An I-20 form is not issued to transient students.)

2. Submit scores from the Test of English as a Foreign Language (TOEFL) or successfully complete an intensive course in English from an accredited college or university in the United States. A minimum score of 550 on the TOEFL is required. Subsequent English tests and preparation may be required by a student's advisor if more work in English is necessary. TOEFL scores are not required for international students from countries whose primary language of instruction is English; nor are TOEFL scores required for non-citizens of the United States graduating from United States high schools, colleges, or universities or from institutions in which English is the medium of instruction.

3. Submit a statement guaranteeing the student's ability to pay all expenses while a student at The University, if attendance under the F-1 (student) visa is anticipated. The statement may be sent from a parent or guardian when endorsed by a bank or other reliable institution, or from a United States citizen who will accept responsibility for the student's financial needs.

The above admission criteria serve as guidelines for admission for international students. The credentials of each applicant are examined on an individual basis by the appropriate Committee on Graduate Studies, the Division Director, and the Dean responsible for the projected degree program with admission granted only to those who show promise of success in graduate study at The University of Texas at San Antonio.

TEMPORARY ADMISSION

Graduates of U.S. or foreign institutions whose previous preparation cannot be evaluated adequately by admission deadlines may be granted temporary admission on academic probation. Such admission may be granted for one term only upon the favorable recommendations of the Dean(s) of the College(s) in which courses will be taken and the Vice President for Academic Affairs. If the student fails to be granted admission as a degree-seeking, certificate, special, or transient student, under the procedures set forth, the student is withdrawn for failure to meet admission requirements and is not allowed to register until admission requirements are met. Temporary admission is permitted only in rare cases.

Credit earned while under temporary admission may be applied toward a Master's degree and/or certification program only after the student has been admitted to such programs and only when the credits earned for the courses have been approved by the appropriate Committee on Graduate Studies, the Division Director, and the Dean of the College offering the degree program. The additional approval of the Director, Office of Teacher Certification and Placement is required before credit earned as a temporarily admitted student can be applied to a graduate certification program.

*Students needing to take this test should write to the Educational Testing Service, Box 899, Princeton, New Jersey 08540, requesting information on taking the TOEFL. The code for The University of Texas at San Antonio is 6919.*
APPLICATION DATES

Students applying for admission as degree-seeking, certificate, special, or transient students may apply for admission as early as nine months before the beginning of the term in which they wish to begin graduate study. Application forms and instructions are available from the Admissions Office. The completed application form and all required supporting documents must be on file with the Admissions Office at least 30 days before registration for the term in which studies are to begin. Failure to comply with the application dates may cause deferment of admission until a subsequent term.

ADMISSION PROCEDURES

The procedures to be followed in applying for admission are explained on the Application for Admission form. Each applicant for admission is individually responsible for ensuring that all required support documents (e.g., application form, test results, required transcripts, etc.) are on file in the Admissions Office, since admission is not considered until the applicant’s file is complete.

Students who apply for admission to The University of Texas at San Antonio for any term and do not register, must re-apply for admission if they wish to enroll at a later date. A subsequent application for admission must be in accordance with current admission requirements. New transcripts, test scores, and all other supporting documents are required since files for applicants who do not register are not retained.

RE-ADMISSION POLICIES AND PROCEDURES

Students, other than transient students, who previously have been admitted and registered at The University of Texas at San Antonio, who were enrolled within 12 months prior to the beginning of any semester or summer session, and who are scholastically eligible to return may re-enroll without applying for re-admission. Former students who have not been enrolled within 12 months prior to the anticipated date of return must submit an application for re-admission to the Admissions Office.

All former students returning to UT San Antonio who have attended other institutions of higher education since they were last enrolled must submit an official transcript from each such institution. Eligibility for re-admission for any former student depends on academic status at the conclusion of the student’s last UT San Antonio enrollment and any subsequent college or university work attempted.
VI. GENERAL ACADEMIC REGULATIONS
REGISTRATION

All students who attend classes at The University of Texas at San Antonio must be registered officially or must be approved as auditors. Registration instructions are included in the Schedule of Classes published for each term. Questions regarding registration should be directed to the Registrar’s Office.

The University does not guarantee the availability of particular courses or sections, and admission to classes is permitted only until the maximum number of students allowable in any section has been reached. The University reserves the right to cancel any course or section in which the number of registrants does not warrant its continuation.

LATE REGISTRATION

Late registration permits students to register during the first week of classes in a regular semester or during the first two class days of a summer term. Students who register late are charged an additional $5.00 the first day of late registration and an additional $2.50 per day thereafter with the maximum amount being $15.00 for any one term. This fee is non-refundable. Instructions for late registration are available at the Registrar’s Office. Students are not permitted to register after the close of late registration.

Those students who register late are responsible for completing any work missed in the courses for which they enroll during the time the course was in session prior to their being registered. It may be necessary for late registrants to select courses in which to enroll from a reduced schedule since many courses will have been closed at their capacities.

ADDING COURSES

After registration, but during the first week of classes in a semester, or the first two class days in a summer term, a student may add a course only with the approval of the course instructor, the student’s advisor, and the Director of the Division in which the course is offered. After the first week of classes and through the twelfth class day of any semester, or on the third or fourth class day of any summer term, the additional approval of the Dean of the College in which the course is offered is required. After the twelfth class day of any semester or after the fourth class day of any summer term, students may not add a course except for extremely rare and extenuating circumstances as approved by the Vice President for Academic Affairs. The University Calendar indicates the deadline dates for adding courses.

DROPPING COURSES

Courses officially dropped during the add/drop period (the first week of a semester or the first two days of a summer term) do not appear on the student’s transcript. A student who drops courses after the add/drop period and through the first six weeks of a semester or through the first ten days of a summer term may drop courses and receive an automatic grade of “W.” The student is re-
sponsible for filing the change with the Registrar’s Office so that the action becomes official.

If a student finds it necessary to drop a course after the first six weeks of classes in a semester or after the tenth class day in a summer session, it is his/her responsibility to initiate and complete procedures for obtaining an approved withdrawal from the course. The forms for this purpose are available in the Registrar’s Office. A student who officially drops a course after the first six weeks of classes in a regular semester or after the tenth class day in a summer session must take the form to his/her instructor who will enter on it a grade of “W” if the student is passing the course at the time of withdrawal or a grade of “F” if he/she is failing the course at the time of withdrawal. In order for the action to be official, the student must file the approved form with the Registrar’s Office. Students may not drop courses later than the first day of the final week of classes for a semester or a summer term.

The University Calendar indicates the deadline dates for students to drop courses each term.

If a student ceases to attend class, the instructor must notify the Registrar’s Office of the date on which attendance ceased.

The instructor may drop a student from the class for non-attendance when approved by the Dean of the College in which the course is offered. If the student is dropped by the instructor during the first six weeks of a semester or during the first ten days of a summer term, the student will receive a grade of “W.” From the beginning of the seventh week of a semester and the eleventh day of a summer term, the instructor shall assign a grade of “W” if the student was passing at the time of the withdrawal or a grade of “F” if the student was failing at the time of the withdrawal.

AUDITING OF COURSES

UT San Antonio students and non-students who wish to audit a course may do so with the approval of the instructor and the Dean of the College in which the course is offered, providing there is space in the classroom after all registered students have been accommodated. A course must achieve its minimum size without auditors. Auditing entitles a student to listen and observe. Participation of an auditor in class is at the discretion of the instructor. No UT San Antonio credit is granted for courses that are audited.

All auditors must submit the Request for Audit Form to the Registrar. A UT San Antonio student pays an auditing fee of $5.00 per course and auditors who are not registered UT San Antonio students must pay an auditing fee of $25.00 per course. Non-student auditors who wish library privileges may receive them by paying a non-student library deposit (Limited Borrower’s Deposit) of $15.00 at the John Peace Library. Persons over 65 are permitted to audit without paying an auditing fee, if space is available.

Permission to audit may not be obtained and fees paid until the late registration period. No official record is made of enrollment in classes on an audit basis.

VERIFICATION OF ENROLLMENT

Following the add/drop period of each semester or summer term, a verification report is sent to each student indicating the schedule of classes in which he/she is officially enrolled. Any discrepancies between the courses shown on the notice and the courses the student is attending should be resolved immediately by the student in person with the Registrar’s Office.
MAINTAINING REGISTRATION

Degree candidates are expected to maintain registration until all degree requirements are satisfied. By failing to register for at least one term within a 12-month period a student breaks his or her registration and must be re-admitted. (See Re-admission Policies and Procedures.) A "re-admitted student" is required to satisfy degree requirements set forth in the Catalog in effect at the time of re-admission. Students must be registered during any semester or summer term that they are taking courses or required examinations or are receiving guidance toward the thesis.

ACADEMIC STANDING

A student's academic standing, whether the student is degree-seeking, certificate only, special or transient, is defined as: good standing, academic probation, academic dismissal.

Good standing is the absence of any contingency that would result in the student's being on academic probation or academic dismissal.

Academic probation describes the standing of a student at the graduate level who is in one of the following categories:

1) a student who fails to achieve a grade-point average in any term at UT San Antonio of 3.00 or higher;
2) a student who receives a grade of "D" or "F" in any course in a term;
3) a student who does not meet all requirements for unconditional or regular admission and who, by special action is admitted on academic probation;
4) a student who has been reinstated following academic dismissal.

Academic probation is cleared only when none of the above criteria apply and when the student achieves an overall grade-point average of 3.00 in graduate-level courses taken at UT San Antonio. Students on academic probation are encouraged to discuss their status with their academic advisors.

Academic dismissal occurs:
1) when a student at the graduate level earns a grade-point average in any term of less than 2.00; or
2) when a student at the graduate level who is on academic probation during a term would again be placed on academic probation under the provisions of academic probation set forth above. If, however, the student's UT San Antonio grade-point average for the term is at least 3.00, he/she will be continued on academic probation.

CANCELLATION OF ENROLLMENT

Any student who fails to fulfill admission or registration requirements or who otherwise fails to adhere to academic regulations is subject to having his/her enrollment for that term cancelled. Application for re-admission to a subsequent term may be considered, provided the deficiency which resulted in the cancellation has been removed.

WITHDRAWAL PROCEDURES

A student who finds it necessary to withdraw from The University (i.e., drop all courses for which he/she is enrolled) may obtain the form for this purpose from
the Registrar's Office. After completing the required form, the student must file it with the Registrar's Office in order to withdraw officially. Students who officially withdraw from The University after the add/drop period, but during the first six weeks of a semester or during the first ten days of a summer term, will receive a grade of "W" for each course in which he/she was enrolled. Students who officially withdraw after the first six weeks of classes in a regular semester or after the tenth class day of a summer session will receive a grade of "W" for each class they are passing at the time of withdrawal and a grade of "F" for each class in which they are not passing at the time of withdrawal. Students who withdraw from all classes are subject to The University's academic probation and dismissal regulations.

Students withdrawing should refer to the regulations on refunds of tuition and fees, readmission policies, and requirements for maintaining registration.

PETITION FOR REINSTATEMENT

A student who has been dismissed academically may petition for reinstatement. Information is available in the Registrar's Office and in the office(s) of the College Dean(s).

GRADUATE STUDENT CLASSIFICATION SYSTEM

Degree-Seeking Student: A student who is admitted to a graduate degree program.

Certificate Student: A student who is admitted to a graduate-level teacher certification program. A student admitted to a graduate teacher certification program and simultaneously to a graduate degree program is considered, for classification purposes, to be a graduate degree student.

Special Student: A student who is admitted for the purpose of enrolling in graduate and/or undergraduate courses in one or more Colleges of The University without entering a degree or certification program.

Transient Student: A student who registers for courses in the summer session only or during one semester only and who does not intend to work toward a degree or certificate at UT San Antonio.

DEFINITION OF A FULL-TIME AND PART-TIME GRADUATE STUDENT

A full-time graduate student (degree, certificate, special, or transient) is one enrolled for nine or more semester hours of graduate credit during a regular semester or for three or more hours of graduate credit during a summer term, or for five or more hours of graduate credit during an entire summer session.

Upon request, the Registrar may certify students as "full-time" during the term in which they intend to graduate if they are completing degree requirements, regardless of the number of hours involved. Such certifications normally are made only once. Students requesting full-time certification under this provision should realize that certain external agencies require a specific number of hours of actual enrollment in order for the student to be eligible for various benefits. In such cases, The University must certify the actual number of hours for which the student is enrolled. It should be further understood that students who are enrolled for a term and wish to utilize this provision can be certified as full time only if the courses and/or hours are degree requirements and the courses and/or hours will complete all degree requirements if they are satisfactorily completed.
COURSE NUMBERING SYSTEM

All courses are designated by four-digit numbers following a two or three-letter abbreviation of the subject field. The first digit indicates the level of the course. All courses with a first digit of 1 or 2 are lower-division (freshman and sophomore) courses, and all courses with a first digit of 3 or 4 are upper-division (junior or senior) courses. All course numbers starting with 5 or 6 are graduate courses. The second and third digits are used within the Colleges by each Division to distinguish individual courses. The fourth digit indicates the semester hour value of the course.

PREREQUISITES

Prerequisites are stated for many courses listed in this catalog. The purpose of the prerequisite is to advise the student of the background expected of all students in the course. When a student has not met the specific prerequisites listed, he/she may, under special conditions, obtain permission to register from the instructor of the course. It is the student's responsibility to be sure that he/she has met all prerequisites before enrolling in any course.

REPEATING COURSES

Only those courses listed in the catalog in which the course description specifically indicates "may be repeated for credit" may be repeated with both credit hours and grade points earned being counted. Students at the graduate level may not repeat courses for the purpose of raising a grade.

GRADING SYSTEM

Hours attempted. The number of hours attempted is the total number of hours for which a student has enrolled and received grades of "A," "B," "C," "D," or "F" (see below).

Hours earned. The hours earned by a student are the number of semester hours of credit earned in which grades of "A," "B," "C," "D," or "CR" have been received (see below).

Grade-Point Average. The UT San Antonio grade-point average (GPA) is determined by dividing the number of grade points earned at UT San Antonio by the number of semester hours attempted at UT San Antonio.

Credits and grades for work completed at other institutions and credits earned by examination are not included in the UT San Antonio grade-point average.

Grade symbols and grade points.

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<th>Symbols</th>
<th>Grade Points</th>
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EXPLANATION OF GRADE SYMBOLS

“A” through “F.” A = Outstanding; B = Above average; C = Average; D = Below average but passing; F = Failure.

“CR” or “Credit.” The symbol “CR” is used to indicate that satisfactory performance has been demonstrated by examination (see Credit by Examination section).

“EP” or “Postponement of Final Examination.” The symbol “EP” is used to indicate that a student has been permitted to postpone a final examination. See “Postponement of Final Examination Procedures” in this section of the catalog.

“W” or “Withdrawal.” The symbol “W” is used to indicate that after the add/drop period a student voluntarily and officially has dropped a course, has ceased to attend a course without officially dropping it, or was dropped from a course by the instructor. After the “automatic W period,” the symbol “W” indicates that the student was passing the course at the time of dropping, ceasing to attend, or being dropped.

“IN” or “Incomplete.” The grade of “Incomplete” (“IN”), subject to the regulations of this section, may be assigned a student at the discretion of the instructor. The purpose of the “Incomplete” grade is to allow a student to complete a course without repetition of the regular work of a course. It may not be assigned when a definite grade can be given for the work done. The “Incomplete” grade is given to indicate that some part of the work of a student in the course has, for good reason, not been completed, while the rest has been satisfactorily completed. The student must have been in attendance at least three-fourths of the term.

Incomplete work must be made up within one year of the time that the “Incomplete” grade is received and before the student’s graduation. If the work is not completed within this time, the “Incomplete” remains on the student’s record, and credit may be earned only when the student re-enrolls in the course and completes the entire course satisfactorily.

The time limit does not apply to graduate level thesis or internship courses, except that an “Incomplete” cannot be removed after a degree is awarded. The time limit does apply to all other graduate courses, including Special Problems and Independent Study courses.

Whenever a grade of “Incomplete” is assigned, the instructor is required to file a “Requirements for Removal of Incomplete” report with the Registrar’s Office.

“NR” or “No Report.” The grade “No Report” (“NR”) may be assigned a student only by the Registrar. This symbol is assigned only when in unusual circumstances it is not possible to obtain the student’s proper grade by the deadline necessary for processing grades at the close of the term and is replaced with the official grade as soon as possible.

REPORTING OF GRADES

Grades are reported by course instructors by term and are due in the Registrar’s Office 48 hours following the final examination. Final grades cannot be withheld nor can reporting of them be deferred. Absence from a final examination should be reported as “EP,” if a postponed examination has been authorized in accordance with the “Postponement of Final Examination Procedures” set forth in this catalog.
GRADE REPORTS
The Registrar's Office mails final grades to students as soon as they are compiled after the close of each semester and each summer term. The grade report reflects the grade that appears on the instructor's final grade sheet; subsequent changes are not included. Grades are mailed to the address on file in the Registrar's Office. Only one grade report is mailed; additional copies are not available.

CHANGE OF GRADES
Grade changes from "Incomplete" ("IN") to a letter grade must be made within the time limit provisions explained under "Explanation of Grade Symbols" in this catalog. A grade of "Incomplete" may be changed by the instructor within the time limits, by completing a Removal of Incomplete form and filing it with the Registrar's Office.

Grade changes from "Postponement of Final Examination" ("EP") to a letter grade should be made as soon as possible after the student has taken the authorized postponed final examination. As explained under "Postponement of Final Examination Procedures" in this catalog, if a postponed final examination is not taken before the end of the fall or spring term following the one for which it was approved, the grade in the course is changed by the Registrar's Office to "F." Prior to that time the instructor may change the "EP" to another letter grade by completing a change of Grade Form and filing it with the Registrar's Office.

Any other change of grade must be initiated by the instructor on the required form available in the Registrar's Office and in the Offices of the College Deans. All requests for a change of grade should be accompanied by a statement explaining the requested change. It is the policy to change a grade (other than "Incomplete") only in the case of error. Additional work performed by a student may not be used to raise a grade that has been reported to the Registrar's Office. Requests for a change of grade require the approval of the Vice President for Academic Affairs before the Registrar will make the change on the student's record.

POSTPONEMENT OF FINAL EXAMINATION PROCEDURES
A student who is compelled to be absent from a final examination because of illness or other imperative reason should, either in person or through a friend, petition his/her academic Dean for permission to postpone the examination. This request, which requires prior approval by the instructor, should be made to the Dean as soon as the student knows he/she will be compelled to be absent.

The instructor records the symbol "EP" on the final grade report for a student who has been permitted to postpone an examination.

The examination should be given as soon as possible (preferably during the same examination period), but not later than thirty days after the original examination period. If for good reason the student cannot take the examination within the thirty-day period, the examination may be scheduled at any time convenient to the instructor, except that in no case will it be given later than the end of the fall or spring term following the one for which the postponed examination was approved. If a postponed examination is not taken before the end of the next fall or spring term, the grade in the course is changed to "F."
CLASS PARTICIPATION POLICY

Regular attendance at and participation in all meetings of courses for which a student is registered is expected. It is the instructor's responsibility to set and to communicate to students the attendance requirements for each course. The degree to which classroom participation is required and whether or not work missed by a student during his absence may be made up is at the discretion of the instructor.

When, in the judgment of the instructor, a student has been absent excessively, the instructor may report the absences to the Dean of the College in which the course is offered and recommend that the student be dropped from the course. If the Dean approves the recommendation, he advises the Registrar, who in turn advises the instructor and student of the action taken.

A student who enrolls for a course and then does not attend will be considered absent from class until he/she officially drops the course or until he/she has accumulated an excessive number of absences and is dropped from the class.

CHANGE OF MAJOR OR DEGREE

A student who wishes to change his or her major or degree objective must obtain the required forms at the Registrar's Office. The change is not official until the student is admitted to the new degree program, certification program, or classification.

SCHOLASTIC DISHONESTY

The integrity of a university degree depends on the integrity of the work done for that degree by each student. The University expects that a student should maintain a high standard of individual honor in his/her scholastic work. "Scholastic dishonesty" includes, but is not limited to, cheating on a test or other class work, plagiarism (the appropriation of another's work and the unacknowledged incorporation of that work in one's own written work offered for credit), and collusion (the unauthorized collaboration with another person in preparing course work offered for credit).

Should a student be accused of scholastic dishonesty, the Dean of the College in which a student is enrolled may initiate disciplinary proceedings.

CATALOG OF GRADUATION

General and specific requirements for graduate degrees may be altered in successive catalogs, but a student who has maintained registration (see "Maintaining Registration") is bound only by the degree requirements of the catalog in force at the time of admission to the graduate program, and within the six-year limitation. At the student's discretion, the requirements as stated in a subsequent catalog may be elected. No degree will be granted on the basis of degree requirements listed in a catalog issued more than six years prior to the date of graduation. In the event that certain required courses are discontinued, substitutions may be authorized or required by the appropriate Committee on Graduate Studies, the Division Director, and the Dean.

APPLICATION FOR A DEGREE

A degree candidate should apply officially for his or her degree at the time of registration or no later than the end of the add-drop period of the term (fall,
spring, or summer session) in which he or she intends to graduate. Upon receipt of the degree form and payment of the required fee, an official degree check is prepared and issued to the student by the Office of Admissions and Registrar. The degree check lists all remaining degree requirements.

Students who fail to apply for their degree by the end of the add-drop period of the term in which they intend to graduate may encounter delays in graduation, may not be included in the Commencement Program, and/or may experience a delay in receipt of their diplomas.

Students who apply for the degree in a given term but who do not fulfill all requirements must file a new degree application at the time of registration (but no later than the end of the add-drop period) for the next term in which they intend to graduate. The degree application fee is required only once for the same degree.

GRADUATION DATES

Degrees are conferred at the end of each semester and at the end of the summer session. Formal public ceremonies are held only at the conclusion of the spring semester. Students who wish to participate in commencement ceremonies at the close of the spring semester and who have graduated during the previous summer or fall terms may do so as may degree candidates for the spring semester. Information on the procedures to be followed is available in the Registrar's Office.

TRANSCRIPTS

Official transcripts of all course work taken at The University of Texas at San Antonio are available at the Registrar's Office. Requests for transcripts must be in writing and must bear the signature of the student whose record is requested. A fee of $1.00 is charged for each copy of the transcripts and must be paid in advance. Transcripts from other institutions submitted to UT San Antonio become property of The University and are not reproduced and/or mailed to other institutions, agencies, or individuals. Upon request, work in progress (i.e., a listing of classes in which the student is currently enrolled) is included with the transcript without additional charge.

Transcript service is withheld from students who have a financial obligation or other commitment outstanding to The University until the obligation is cleared.

RELEASE OF TRANSCRIPTS AND ACADEMIC RECORDS

UT San Antonio transcripts and other information from a student's academic records are released by the Registrar only upon written request from the student or other person authorized by law and when payment of the appropriate fee is made. Exceptions may be made in response to a subpoena or court order and as provided in the policy on releasing directory information set forth in this catalog.

All official certifications with regard to the academic performance or status of a student or former student of The University of Texas at San Antonio are made by the Registrar's Office.

CHANGE OF NAME

A student's name on official records at UT San Antonio is the name under which the student applied for admission, unless a Change of Name form has
been processed through the Registrar’s Office. Name changes are made only when appropriate legal documentation accompanies the request, except that upon marriage a student may declare the newly taken name.

**CHANGE OF ADDRESS**

Currently enrolled students who have changed their addresses should notify the Registrar’s Office by completing the appropriate form. Official notification of change of address is necessary for proper identification of students’ records and for accurate mailing of correspondence, grade reports, transcripts, registration instructions, and information pertaining to graduation requirements.
VII. MASTER'S DEGREE REGULATIONS
UNIVERSITY-WIDE REQUIREMENTS FOR THE MASTER’S DEGREE

In order to receive a Master’s degree from UT San Antonio, the following minimum requirements must be met:

1. The student must be admitted as a degree-seeking student for the degree sought;
2. The student must remove all conditions of admission, if any were assigned at the time of admission;
3. The student must apply for and be admitted to candidacy for the degree;
4. Subject to the six-year time limitation, the student must complete satisfactorily all course work as specified in his or her Program of Study, and, if Option I is selected, must complete satisfactorily the thesis as outlined in the Requirements for Thesis section of this catalog;
5. The student must formally apply for the degree;
6. The student must complete satisfactorily the comprehensive examination, except as provided for M.B.A. degree;
7. The student must meet the grade-point average requirement of 3.00 or higher (on a 4.00 scale) in all work counted as part of the degree program;
8. The student must be in good standing.

Detailed descriptions of each of the above requirements are included in this catalog.

TRANSFER OF CREDIT

Ordinarily all work for the Master’s degree must be done at The University of Texas at San Antonio. Transfer credit of usually not more than six semester hours may be allowed for graduate course work completed at another accredited institution upon the approval of the appropriate Committee on Graduate Studies, the Division Director, and the Dean of the College in which the major area is located. Upon petition by the student and recommendation of the appropriate Committee on Graduate Studies, the Division Director, and the Dean, a maximum of one-third of the semester hours of course work (exclusive of thesis) required for a degree at UT San Antonio may be accepted as transfer credit for the degree. All work submitted for transfer credit must have been completed with grades of “A” or “B” and must have been completed no more than six years before the degree is awarded.

It is the policy of The University of Texas System that all academic institutions within the System may accept graduate credit from each other, and the regular requirements on residency are adjusted accordingly. The applicability of specific courses from other University of Texas institutions to a student’s graduate degree program at UT San Antonio, however, must be approved by the appropriate Committee on Graduate Studies, the Division Director, and the Dean.

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1 No courses in which grades of less than “C” were earned may be applied to a graduate degree, nor may courses for which the grade of “CR” was earned by examination be applied to minimum degree requirements.

2 The Registrar’s Office evaluates transcripts and designates which graduate courses are acceptable under the above provisions for transfer toward Master’s degrees at UT San Antonio. Whether or not a course is transferable as graduate course work is determined by the course number assigned by the institution awarding the credit. To be transferable to UT San Antonio (up to a maximum of six hours) courses must be defined as graduate courses at the institution where credit was earned. Courses which are defined as upper-division by their course numbers but permitted to be applied to a graduate degree at the institution awarding the credit are not accepted for transfer toward a Master’s degree at UT San Antonio.
CREDIT BY EXAMINATION

Credit by Examination at UT San Antonio is designed to enable students, who may already have achieved the objectives of certain courses leading to a bacca­laureate degree, to receive credit for these courses. Credit cannot be earned by CEEB examination or by UT Challenge Examination for any courses used to meet minimum requirements for a graduate degree or graduate teacher certification program. Graduate-level students wishing to satisfy TEA requirements for undergraduate certification programs by means of CEEB testing programs should petition the Office of the Vice President for Academic Affairs for such approval. Graduate degree-seeking students in the College of Business or in the Division of Environmental Studies may challenge any UTSA graduate-level "professional" or "background" course that is required in addition to minimum degree requirements. (See the UTSA Credit by Examination Brochure.)

CORRESPONDENCE AND EXTENSION COURSES

Courses completed by correspondence or by extension may not be applied to a graduate degree program.

COURSES COUNTED FOR ANOTHER DEGREE

No courses counted toward another degree may be applied to a graduate degree, either directly or by substitution. Work done for the Master's degree may be included in the work for the doctoral degree, when it is offered, provided it is acceptable to the candidate's Supervising Committee, the appropriate Committee on Graduate Studies, the Division Director, and the Dean.

LIMITATION ON UNDERGRADUATE CREDIT COUNTED TOWARD A MASTER'S DEGREE

With the approval of the appropriate Committee on Graduate Studies, the Division Director, and the Dean of the College in which the student expects to earn his/her degree, a candidate for the Master's degree may apply a maximum of six semester hours of credit for upper-division (junior or senior) courses completed at UT San Antonio with the grades of "A" or "B" to a Master's degree; no courses below the upper-division level or with other grades may be applied to the degree.

ADMISSION TO CANDIDACY

All students seeking the Master's degree at UT San Antonio must file the Application for Admission to Candidacy with the Dean of the College in which the degree program is located. Admission to Candidacy is a degree requirement. The Application for Admission to Candidacy normally should be filed at the end of the first semester of full-time graduate study or upon completion of the first 12 hours of graduate work.

In order to be admitted to candidacy, the student must comply with the following requirements:

1. Complete all conditions of admission, if any were assigned at the time of admission;
2. Complete all special admission requirements for the degree program, if any;

3. Be in good standing;

4. Have an acceptable Program of Study;

5. If a thesis is to be written, the supervising professor and thesis committee must be selected and the thesis topic must be acceptable;

6. Be recommended for admission to candidacy by the appropriate Committee on Graduate Studies and the Division Director;

7. Be approved for admission to candidacy by the Dean of the College in which the degree program is offered.

The Dean, or a committee appointed by the Dean, may examine the student on his/her preparation in the major area and related subjects and may require him/her to make up any deficiencies before the application for admission to candidacy is approved. The examination may be oral and/or written at the discretion of the examiners.

COMPREHENSIVE EXAMINATION

A candidate for a Master's degree, other than candidates for the M.B.A. degree who complete MGT 5903, must, in addition to all other requirements, pass a comprehensive examination which may be oral or written or both. The examining committee is appointed by the Dean of the College in which the degree is offered. Comprehensive examinations are given only to those students who have been admitted to candidacy for the degree.

OPTIONS FOR MASTER'S DEGREES

Two options are available for most Master's Degree Programs.4

Option I. The candidate for a Master of Arts, Master of Science, or Master of Business Administration degree is required to complete the required number of semester hours of credit in course work approved by the appropriate Committee on Graduate Studies, the Division Director, and the Dean, including six semester hours of credit for a thesis. The thesis is subject to approval by the student's Graduate Advisor, Thesis Committee, and Dean.

Students receiving advice and assistance from a faculty member in the preparation of theses are required to enroll in the appropriate thesis course (if necessary, for multiple terms) until final approval of completed thesis has been given and two copies have been filed with the student's Dean.

Option II. For a Master's degree under Option II, a student can meet requirements without writing a thesis but instead is required to complete a program of course work, as indicated in Chapter VIII, approved by the appropriate Committee on Graduate Studies, the Division Director, and the Dean.

At the beginning of the student's Master program he/she should in consultation with his/her Graduate Advisor select the option most suitable to his/her needs. Should a student elect to change options after being admitted to candidacy, he/she will need to apply for candidacy under the new option.

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4The student should refer to Chapter VIII to determine whether a specific degree program offers both options.
REQUIREMENTS FOR THESIS

The following steps for completing a thesis as part of the Master's degree are the responsibility of each degree candidate selecting Option I:

1. Secure the approval of the Thesis Director, who is also Chairman of the Thesis Committee. The Thesis Committee consists of the Thesis Director and two additional members of the Graduate Faculty appointed by the College Dean. The student is expected to work closely with the Thesis Director in selecting the thesis topic and in completing other details of his/her study.

2. Submit a preliminary draft for approval by the Thesis Director not later than 45 calendar days before final examinations of the term in which the degree is to be awarded. The first draft copy should be corrected, legible, and typewritten. The format of the thesis must follow University regulations. The detailed requirements are available from the College Dean.

3. Secure approval of the draft by the Thesis Committee. This step is intended to signify that the thesis meets the required standards for content, expression, format, spelling and accuracy. Candidates are responsible for meeting the standards of those reading and approving the thesis.

4. Submit the approved draft to a typist. The approved draft of the thesis is then to be typed in acceptable form.

5. Submit the final copy of the thesis to the Thesis Director and Thesis Committee not later than 20 calendar days before final examinations of the term in which the degree is to be awarded. This copy of the thesis must be the original and, if acceptable, must be signed by the Thesis Director and members of the Thesis Committee. Prior to submission of the thesis to the Dean for final acceptance, the Office of the Vice President for Academic Affairs must certify that it conforms to the format prescribed in the Format for the Master's Thesis and approve the method of duplication.

6. File two unbound copies, including the original, of the approved thesis with the Dean's Office at least 10 days prior to the last day of classes of the term in which the degree is to be awarded. The copies are transmitted by the College Dean to the Library, where they are bound. One copy is retained by the Library, and the other is returned to the College Dean. (A fee of $5.00 per copy will be charged for binding the official copies of thesis.)

7. It is customary that copies of the thesis be presented to the Thesis Director and members of the Thesis Committee. Arrangements and expenses for binding of all copies, except the two official copies for The University, are the responsibility of the student. Copyright may be arranged by the author and will be at the student's expense.

ADDITIONAL MASTER'S DEGREE

A student who holds a Master's or higher degree may pursue an additional Master's degree at UT San Antonio only under the following conditions:

1) that the additional Master's opens an additional area, field, or concentration;

2) that the proposed second Master's is approved by the appropriate Committee on Graduate Studies, the Division Director, and the Dean of the College in which the additional degree program is offered.
It should be further understood:

1) that the same courses cannot be applied toward two different degrees;

2) that credit applied to a previous degree at another institution which duplicates a portion of the program required under the second degree being sought at UT San Antonio does not reduce the number of hours required for that second degree. Courses already taken would not be required. Rather, additional course work would be substituted for such previously completed courses.

TIME LIMITATION ON APPLYING CREDIT TOWARD A MASTER'S DEGREE

All credit to be applied to a Master's degree must have been earned within the six years immediately preceding the date the degree is awarded. Outdated UT San Antonio credits may be accepted upon approval of the appropriate Committee on Graduate Studies, the Division Director, and the Dean; an examination may be required as a condition for validating credit.

*The only exception is the M.F.A. Degree. Students should refer to "Courses Counted for Another Degree" in this section of the Catalog."
VIII. SUMMARY OF GRADUATE DEGREE PROGRAMS AND SUPPORT AREAS FOR 1978-80
The following graduate degree programs are available during 1978-80. Detailed requirements for each degree are found in Section IX of the present catalog.

**Master of Business Administration Degree**

Business
Interamerican Management

**Master of Arts Degree**

**Bicultural-Bilingual Studies**
Concentrations: (1) Bicultural-Bilingual Teacher Education
(2) Bicultural Studies
(3) English as a Second Language

**Education**
Concentrations: (1) Cultural Foundations of Education
(2) Curriculum and Instruction
(3) Early Childhood and Elementary Education
(4) Educational Management
(5) Educational Psychology
  Counseling and Guidance
  Special Education
(6) Institutions of Higher Education

**Environment Management**
Concentrations: (1) Management of Human Resources
(2) Urban Studies

**History**

**Spanish**
Concentrations: (1) Hispanic Culture
(2) Hispanic Literatures
(3) Spanish Language

**Master of Fine Arts Degree**
Art

**Master of Science Degree**

**Biology**

**Chemistry**

**Environmental Management**
Concentration: (1) Management of Natural Resources

**Mathematics, Computer Science, and Systems Design**

*Course offerings in graduate degree programs may be postponed if enrollments or resource and space limitations do not warrant scheduling or continuation of a particular course.
Additional graduate courses are available in the following support areas during 1978-80:

- Anthropology
- Art History and Criticism
- Earth and Physical Sciences
- Comparative Literature
- Geography
- Linguistics
- Museum Science
- Music
- Physical Science
- Political Science
- Sociology

*Course offerings in graduate support areas may be postponed if enrollments or resource and space limitations do not warrant scheduling or continuation of a particular course.*
IX. GRADUATE DEGREE PROGRAMS AND SUPPORT COURSES
COLLEGE OF BUSINESS

MASTER OF BUSINESS ADMINISTRATION DEGREE IN BUSINESS

The Master of Business Administration Degree in Business is designed to provide intensive education to qualified graduate students and is available to individuals with undergraduate degrees in the business administration areas, as well as to those with specializations outside the business field.

Students whose previous training has been in non-business fields may be admitted to the M.B.A. Program in Business but are required as a condition of admission to complete, in total or in part, depending upon the background of each student, a core of professional courses or their equivalents. Students whose background is in business but who have completed the professional core courses or their equivalents five or more years prior to entering the program will be required to complete successfully or test out of the professional core courses. The professional courses are open only to graduate students and are in addition to degree requirements of the M.B.A. in Business.

Special Admission Requirements. For unconditional admission to the M.B.A. program in Business, applicants must meet university-wide graduate admission requirements and have an approximate composite score of 500 on the Graduate Management Admission Test (GMAT). Those who have not met the requirement of 18 semester hours of course work in the business area receive conditional admission to complete those professional courses or their equivalents which they are lacking. No credit for these courses may count toward degree requirements of the M.B.A. in Business.

The professional core courses are:

ACC 5003 The Theory, Method, and Use of Accounting
BLW 5003 Legal Environment of Business
ECO 5003 Economic Theory and Policy
FIN 5003 Administrative Finance
MGT 5003 Conceptual Paradigms of Management
MGT 5013 Quantitative Methods for Business Analysis
MGT 5083 Data Processing for Business Analysis
MKT 5003 Marketing Theory

All applicants for admission to the M.B.A. Program in Business must take the Graduate Management Admission Test (GMAT)¹ and submit results to the Admissions Office.

Degree Requirements. The M.B.A. program in Business requires 36 semester hours of work beyond any hours acquired in the above professional courses. All candidates for the M.B.A. Degree in Business are required to complete successfully the following core of 24 semester hours:

ACC 5023 Accounting Analysis for Decision-Making²
ECO 5023 Managerial Economics
FIN 5023 Financial Management
MGT 5023 Quantitative Methods in Business
MGT 5033 Business Research Methods

¹Applications for the GMAT, or information on the test, may be obtained from GMAT, Educational Testing Service, P.O. Box 9660, Princeton, New Jersey 08540.
²Persons having an undergraduate degree in accounting or the equivalent must substitute an accounting elective for this course with the approval of the Director, Division of Accounting and Business Data Systems and the Dean of the College.
MASTER OF BUSINESS ADMINISTRATION DEGREE / 73
IN INTERAMERICAN MANAGEMENT

MGT 5043 Behavior in Organizations
MGT 5903 Management Policy, Problems, and Trends
MKT 5023 Marketing Management

Students for the M.B.A. Degree in Business may elect one of two options to complete the required 36 hours. Under Option I, students are required to complete the 24 semester hours of the above core, 6 semester hours of electives as recommended by the Committee on Graduate Studies, and approved by the appropriate Division Director and Dean, and 6 hours of Master's Thesis. Students who wish to utilize the non-thesis option, Option II, are required to complete the 24 semester hours of the above core, and 12 semester hours of electives as approved by the Committee on Graduate Studies, and approved by the appropriate Division Director and Dean.

MASTER OF BUSINESS ADMINISTRATION DEGREE IN INTERAMERICAN MANAGEMENT

In response to the geographical, commercial, and ethnic environments of The University of Texas at San Antonio, the College of Business offers the Master of Business Administration Degree in Interamerican Management. The fundamental objective of this degree program is to offer students an opportunity to gain perspective on commercial activities in a setting which is bilingual, transnational, and cross-cultural. To achieve this end, specific interamerican content courses have been developed in the disciplines of accounting, management, marketing and finance. Arrangements with Latin American universities enable students to complete a portion of their work while residing outside the United States. The interamerican content courses and possibilities for foreign study are supplemented by research and workshop opportunities in the area of interamerican business. Students entering the degree program meet the normal admission requirements for the College of Business and are encouraged to undertake Spanish language study concurrently with their work on the M.B.A. Degree in Interamerican Management.

Special Admission Requirements. Applicants for admission to the Master of Business Administration program in Interamerican Management are required to meet the same special admission requirements set out above for the Master of Business Administration Degree in Business.

Degree Requirements. All candidates for the M.B.A. Degree in Interamerican Management must complete the following core of 21 semester hours:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 5023</td>
<td>Accounting Analysis for Decision-Makinga</td>
</tr>
<tr>
<td>ECO 5023</td>
<td>Managerial Economics</td>
</tr>
<tr>
<td>ECO 5303</td>
<td>International Trade and Finance</td>
</tr>
<tr>
<td>FIN 5023</td>
<td>Financial Management</td>
</tr>
<tr>
<td>MGT 5023</td>
<td>Quantitative Methods in Business</td>
</tr>
<tr>
<td>MGT 5903</td>
<td>Management Policy, Problems, and Trends</td>
</tr>
<tr>
<td>MKT 5023</td>
<td>Marketing Management</td>
</tr>
</tbody>
</table>

In addition to the above core, students desiring an M.B.A. Degree in Interamerican Management must complete 6 semester hours of international courses as follows:

aPersons having an undergraduate degree in accounting or the equivalent must substitute an accounting elective for this course with the recommendation of the Committee on Graduate Studies and the approval of the appropriate Division Director and Dean of the College.

bMKT 5903 will likely have a special section which will incorporate a computerized international business game to illustrate how business decisions are influenced by transnational transactions.
MASTER OF BUSINESS ADMINISTRATION DEGREE IN INTERAMERICAN MANAGEMENT

FIN 5833 International Managerial Finance and Accounting
MKT 5673 International Marketing and Management

To complete the program, students choose either an elective program of 9 semester hours in interamerican content courses as listed below or a combination of elective interamerican content courses and foreign study as recommended by the Committee on Graduate Studies and approved by the appropriate Division Director and Dean of the College. Normally the foreign study will be taken at a cooperating Latin American institution. An agreement is currently in effect with the Instituto Tecnologico y de Estudios Superiores de Monterrey and the Universidad de las Americas, Mexico City, to provide courses and workshops.

Interamerican Content Elective Courses:

ACC 5683 Accounting and Tax Practices in Latin America
FIN 5673 Interamerican Banking and Financial Systems
MKT 5693 Marketing Environment in Latin America
MGT 5173 Comparative Interamerican Administration
ECO 5423 Problems of the Latin American Economies
BLW 5173 Legal Environment of Interamerican Business

Foreign course work may be taken as:

FIN 5963-6 Interamerican Business Internship or
MKT 5963-6 Interamerican Business Internship
FIN 5983 Interamerican Business Essay or
MKT 5983 Interamerican Business Essay
5003  **The Theory, Method and Use of Accounting**  
(3-0) 3 hours credit.  
An intensive study of accounting as a tool to communicate financial information for planning, for analyzing and for controlling business enterprises directed toward decision making.

5013  **Survey of Federal Taxation of Business Entities**  
(3-0) 3 hours credit. Prerequisite: ACC 5003 or consent of instructor.  
Federal taxation of sole proprietorships, partnerships, and corporations with an emphasis on compliance with federal tax laws and business planning to acquaint students with the tax consequences of the forms of doing business and make them aware of the tax considerations in business operations.

5023  **Accounting Analysis for Decision-Making**  
(3-0) 3 hours credit. Prerequisite: ACC 5003 or the equivalent.  
The study of accounting and its uses by management in the decision-making process. Note: Non-credit course for undergraduate accounting majors.

5024  **Financial Accounting Concepts and Practices**  
(4-0) 4 hours credit. Prerequisite: ACC 5003 or the equivalent.  
A concentrated study of financial accounting theory and practices. Analysis of various accounting practices and procedures as they apply to financial accounting and reporting.

5033  **Controllership**  
(3-0) 3 hours credit. Prerequisite: 24 hours of accounting or consent of instructor.  
A study of the accounting executive's role in the management of a business enterprise; case studies of the use of accounting information to management.

5043  **Advanced Problems in Auditing**  
(3-0) 3 hours credit. Prerequisite: Undergraduate course in auditing or consent of instructor.  
Specialized study of complex auditing problems including statistical sampling techniques, auditing techniques through the computer, auditor's reports, S.E.C. regulations, and interim reporting.

6013  **Seminar in Current Accounting Theory**  
(3-0) 3 hours credit. Prerequisite: 24 hours of accounting or consent of instructor.  
A study of current accounting pronouncements and literature; accounting bulletins of the American Institute of Certified Public Accountants, Securities Exchange Commission accounting releases and other relevant material.

6023  **Seminar in Contemporary Accounting Thought**  
(3-0) 3 hours credit. Prerequisite: 24 hours of accounting or consent of instructor.  
A study of contemporary accounting issues in accounting research; cases and readings of current accounting literature; and the development and presentation of accounting research.

6033  **Seminar in Public Accounting Practice**  
(3-0) 3 hours credit. Prerequisite: 24 hours of accounting or consent of instructor.  
A study of the establishment, development, and management of a public accounting practice. Selected topics include: client relations, quality control, fee billing and collection, professional responsibilities, and office management.

6951-3  **Independent Study**  
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor, the student's Graduate Advisor, and the Division Director and Dean of the College in which the course is offered.
Independent reading, research, discussion, and/or writing under the direction of a faculty member. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

6971-3 Special Problems
1 to 3 hours credit. Prerequisite: Consent of instructor. An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Problems Courses may be repeated for credit when the topics vary, but not more than 6 hours, regardless of discipline, will apply to a Master's degree.

6983 Master's Thesis
3 hours credit. Prerequisites: Admission to candidacy and permission of the Graduate Advisor and thesis director. Thesis research and preparation. May be repeated for credit, but not more than 6 hours will apply to the Master's degree. Credit will be awarded upon completion of the thesis. Enrollment is required each term in which the thesis is in progress.
DIVISION OF ECONOMICS AND FINANCE

COURSE DESCRIPTIONS

BUSINESS LAW

(BLW)

5003 Legal Environment of Business
(3-0) 3 hours credit.
Intensive study of law of contracts, negotiable instruments, sales, bankruptcy, agencies, partnerships and corporations, and wills and estates.

5173 Legal Environment of Interamerican Business
(3-0) 3 hours credit. Prerequisite: BLW 5003 or the equivalent.
Essentials of Latin American commercial law; recognized forms of business organization; corporate structure and liability; government regulation and antitrust policy; law of international commerce.

COURSE DESCRIPTIONS

ECONOMICS

(ECO)

5003 Economic Theory and Policy
(3-0) 3 hours credit.
Intensive study of micro- and macro-economic concepts; the price system as it functions under competition, monopoly and partial monopoly; national income measurement and determination; business cycles; money and banking; monetary policy; fiscal policy and economic stabilization.

5023 Managerial Economics
(3-0) 3 hours credit. Prerequisites: ECO 5003 and MGT 5013 or their equivalents.
Application of price theory to economic decisions of the firm. A problem-oriented approach emphasizing demand, production, and profit-maximizing conditions and their implications for output and pricing strategies under various market structures and types of organization.

5033 Microeconomic Theory
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
Theory of consumer demand; economic behavior under pure and imperfect competition; price and output determination; resource allocation; general equilibrium; welfare economics.

5043 Public Managerial Economics
(3-0) 3 hours credit. Prerequisite: ECO 5003 or the equivalent or consent of instructor.
Economic theory and methodology relevant to the public sector. Concepts of marginal analysis, calculation of costs and benefits, and economic efficiency applied to problems of environmental quality, education, crime, and human resources. Microeconomic analysis of inflation, unemployment, income distribution, and economic growth; fiscal federalism and revenue sharing.

5053 Macroeconomic Theory
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
Construction and consideration of empirical significance of aggregate economic models of the determination of income, employment, interest rates, and the price level; theories of consumption, investment, and money holdings; stabilization policy; comparative statics analysis.

5223 Monetary Theory
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
Theory and practice of monetary control; supply and demand for money; instruments of monetary control and channels of economic impact; current issues in theory and policy.
5303 **International Trade and Finance**  
(3-0) 3 hours credit. Prerequisite: Consent of instructor.  
Survey of trade theory including modern pure theory and trade policy, balance of payments and exchange rates, international financial institutions and policy problems.

5403 **Governmental Regulation of Industrial Organization**  
(3-0) 3 hours credit. Prerequisite: ECO 5003 or the equivalent.  
Structure of American industry; policy toward business performance and behavior; theory of government interference.

5413 **Economics of Health Systems**  
(3-0) 3 hours credit. Prerequisite: Consent of instructor.  
Application of economic models to the analysis of the medical and health services industry.

5423 **Problems of the Latin American Economies**  
(3-0) 3 hours credit. Prerequisite: ECO 5023 or the equivalent.  
Survey of problems relating to the economic development of selected Latin American countries; structural problems, balance of payments, foreign investment and foreign aid; emphasis on current issues.

5463 **Economics of Regional Development**  
(3-0) 3 hours credit. Prerequisite: ECO 5023 or the equivalent.  
Locational analysis of economic activities; structure or regions and their economic base; growth poles and theories of regional growth; geographical and cultural determinants; strategies for area economic development.

5603 **Public Finance and Fiscal Policy**  
(3-0) 3 hours credit. Prerequisite: Consent of instructor.  
Theoretical rationale for collective action; incidence, equity, and efficiency of taxation methods; externalities and property rights; fiscal management and debt financing.

5913 **Antitrust — Legal and Economic Analysis**  
(3-0) 3 hours credit. Prerequisite: ECO 5003 or the equivalent. An analysis of promoting and protecting competition through law. Antitrust implications of the managerial process are to be examined and evaluated.

6303 **Economics of Human Resources**  
(3-0) 3 hours credit. Prerequisite: Consent of instructor.  
Study of education process, rates of return and investment in human resources such as health and on-the-job training. Educational planning, production and economic growth are analyzed.

6313 **Labor Economics**  
(3-0) 3 hours credit. Prerequisite: Consent of instructor.  
Survey of wage theory; wage determination and structure of labor markets; employment opportunities, economic security, leisure, and technological change; labor organizations and collective bargaining.

6363 **Manpower Policy**  
(3-0) 3 hours credit. Prerequisite: ECO 5003 or the equivalent.  
Projecting of labor needs and the evolution of economic society and the development of labor force skills to supply these needs. Alternative choices of resources and public programs available at the local, state, and national levels to assist in the efficient utilization of human resources.

6373 **Economics of Poverty**  
(3-0) 3 hours credit. Prerequisite: Consent of instructor.  
Causes of poverty and ways society provides the means of livelihood for those unable to care for themselves.

6553 **Urban Economics**  
(3-0) 3 hours credit. Prerequisite: Consent of instructor.  
Economic dimensions of cities, location theory, theories of agglomeration and urban growth, analysis of urban problems of the public sector, transportation, pollution, housing, poverty, land use, and crime.
6951-3 Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor, the student's Graduate Advisor, and the Division Director and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

6971-3 Special Problems
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6983 Master's Thesis
3 hours credit. Prerequisites: Admission to candidacy and permission of the Graduate Advisor and thesis director. Thesis research and preparation. May be repeated for credit, but not more than 6 hours will apply to the Master's degree. Credit will be awarded upon completion of the thesis. Enrollment is required each term in which the thesis is in progress.

COURSE DESCRIPTIONS
FINANCE
(FIN)

5003 Administrative Finance
(3-0) 3 hours credit. Prerequisite: ACC 5003 or the equivalent. Intensive study of the financial dimensions of business enterprise; financial organization structures; financing of business operations; capitalization; refunding and reorganization.

5023 Financial Management
(3-0) 3 hours credit. Prerequisite: FIN 5003 or the equivalent. A study of the methodology used by the financial manager in the financing of various operations of a business enterprise such as planning, requisition and management of funds.

5043 Budgeting and Finance in the Public Sector
(3-0) 3 hours credit. An examination of public finance and budgeting at all governmental levels. Public goods and the justifications for public expenditure; intergovernmental fiscal relations. Assessment and taxation structures; various financial dispersement systems; interrelationship of planning, programming and budgeting. Attention to the "politics" of budgetary preparation, passage, and execution.

5633 Investment Theory and Problems
(3-0) 3 hours credit. Prerequisite: FIN 5023 or the equivalent. An examination of the investment decision in both the personal and corporate setting. Emphasis is placed on the analysis of risk and return characteristics of various investment alternatives, portfolio selection and management, and tax considerations. Problems and cases include investment decisions in securities, capital goods, and real estate.

5673 Interamerican Banking and Financial Systems
(3-0) 3 hours credit. Prerequisite: FIN 5023 or the equivalent. The evaluation and structure of Latin American financial institutions; operations of the money and capital markets; the role of the government reflected in the operations of the central banks and the public sector financial institutions; source and uses of funds; and the relationships between financial institutions and business enterprises.
5713 Financial Institutions and Markets
(3-0) 3 hours credit. Prerequisite: FIN 5023 or the equivalent.
The principle financial intermediaries in the U.S. economy and the changing dimensions in financial intermediation. Analysis of money and capital markets, flow of funds, and interest rates and security prices.

5733 Operation of Financial Institutions
(3-0) 3 hours credit. Prerequisite: FIN 5023 or the equivalent.
Management practices peculiar to managing the financial firm; covered are the major depositary and non-depositary intermediaries. Emphasis is upon asset and liability management, industry structure, and competitive environment.

5813 Capital Formation and Budgeting
(3-0) 3 hours credit. Prerequisite: FIN 5023 or the equivalent.
Analysis of the cost-of-capital concepts and capital budgeting as these are associated with the micro and macro approach to finance.

5823 Public Financial Administration
(3-0) 3 hours credit. Prerequisite: FIN 5023 or FIN 5043.
Problems of financial management in governmental units: alternative revenue sources, financial planning and control, cash debt management; survey of modern expenditure management, control and planning.

5833 International Managerial Finance and Accounting
(3-0) 3 hours credit. Prerequisite: FIN 5023 or the equivalent.
The theory of business finance as applied to the operations of multinational firms; financial analysis and control of foreign investment decision; working capital management; and international capital markets and credit institutions. Examination of special accounting problems with particular focus on different systems, consolidation, and translation of foreign accounts. Analysis of recent trends in international monetary affairs.

5913 Portfolio Theory and Efficient Capital Markets
(3-0) 3 hours credit. Prerequisite: FIN 5633 or the equivalent.
A comprehensive survey on the classical and contemporary theories of optimum portfolio construction; a study of the determinants of risk-return trade-offs in the selection of securities; emphasis on the theory and evidence of efficient capital markets and its implications on the analysis of securities and portfolio management.

5963-6 Interamerican Business Internship
3 or 6 hours credit. Prerequisites: Consent of Division Director and Dean.
Work experience in interamerican business or public agency.

5983 Interamerican Business Essay
3 hours credit. Prerequisites: Consent of Division Director and Dean.
Original research report on an interamerican management topic.

6603 Revenue Administration
(3-0) 3 hours credit.
Elements of management accounting in the public sector. Design and use of expenditure control systems and effectiveness evaluation techniques. Case material utilized to demonstrate application of modern cost accounting to local government decision making. Topics include: revenue estimation, forecasting, audit procedures, property tax assessment.

6613 Financial Management for Not-For-Profit Organizations
(3-0) 3 hours credit. Prerequisite: FIN 5023 or the equivalent.
The application of basic financial, accounting, and social theory and methods to the management of the finance function for such not-for-profit organizations as hospitals, educational institutions and research organizations. In addition to budgetary problems emphasis will be placed on the methods of expenditure measurements and control.

6623 Advanced Budgeting
(3-0) 3 hours credit. Prerequisite: FIN 5023 or FIN 5043
The budget as a tool for executive control and decision making; emergent issues in
budget processed to make them more effective; executive-legislative relations and the budget at various levels of government. The politics of goals and constituencies in the budgetary process.

6633 Financing Urban Development
(3-0) 3 hours credit.
A study of the various sources of revenues available to finance the development of cities. An evaluation of the favorable and unfavorable dimensions of these various funding sources. Cost benefit analysis is used to evaluate the alternatives as they affect city development.

6643 Public Sector Investment Problems and Analysis
(3-0) 3 hours credit. Prerequisite: FIN 5003 or the equivalent, or consent of instructor.
Theory and analysis of investment decisions undertaken in the public sector. Concepts of capital budgeting, social costs and benefits, social rates of discount, and human capital investments will be considered.

6951-3 Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor, the student's Graduate Advisor, and the Division Director and Dean of the College in which the course is offered.
Independent reading, research, discussion, and/or writing under the direction of a faculty member. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

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6983 Master's Thesis
3 hours credit. Prerequisites: Admission to candidacy and permission of the Graduate Advisor and thesis director.
Thesis research and preparation. May be repeated for credit, but not more than 6 hours will apply to the Master's degree. Credit will be awarded upon completion of the thesis. Enrollment is required each term in which the thesis is in progress.
COURSE DESCRIPTIONS
MANAGEMENT
(MGT)

5003 Conceptual Paradigms of Management
3 hours credit.
Intensive study of the various theoretical constructs of the spectrum of organization and management theories including the process, empirical, behavioral and quantitative approaches.

5013 Quantitative Methods for Business Analysis
3 hours credit. Prerequisites: MAT 1022 and MAT 1062 or their equivalents, or consent of instructor.
Emphasizes quantitative methods used in business analysis. Topics include a review of algebra, linear and non-linear optimization, and descriptive statistics.

5023 Quantitative Methods in Business
3 hours credit. Prerequisites: MGT 5013 and MGT 5083 or their equivalents.
A study of applications of quantitative approaches to business decision analyses. Emphasis is given to optimization, statistical, and simulation procedures. Specific managerial decisions addressed include resource allocation, transportation scheduling, capital budgeting, and inventory and production management.

5033 Business Research Methods
3 hours credit. Prerequisites: MGT 5013 and MGT 5083 or their equivalents.
Theory of methods used in conducting research in business, evaluation of major sources of business information, analysis of organization in writing research reports and problems in the major forms of business research.

5043 Behavior in Organizations
3 hours credit. Prerequisite: MGT 5003 or the equivalent.
Study of individual, interpersonal, and intergroup behavior in organizations. Focuses on problems of formal and informal organization, communications, motivation, change, conflict, cooperation, influence and authority.

5053 Organizational Communications
3 hours credit. Prerequisite: MGT 5003 or the equivalent.
A survey of theoretical and functional aspects of organizational communication stressing interpersonal, intra and interorganizational, and intercultural communication.

5063 Communication and Change
3 hours credit. Prerequisite: MGT 5053.
This course stresses the methodology of detecting and correcting organizational malfunctioning arising from individual or organizational communication audit, including sampling techniques, data gathering techniques (questionnaire, interview, observation) and data analysis.

5073 Interpersonal Communication in Organizations
3 hours credit. Prerequisite: MGT 5003 or the equivalent.
Specific focus will be placed on problems resulting from status differentiation in superior-subordinate and peer relationships. Topics will include negative feedback, information distortion, interviewing, transactional analysis, and interpersonal perception.

5083 Data Processing for Business Analysis
3 hours credit. Prerequisite: CS 1043 or the equivalent, or consent of instructor.
Emphasizes computer methods in business research. Research topics addressed include payroll systems, investment analysis, production analysis, input/output systems, and marketing survey analysis.
5103 Organizational Systems Analysis
(3-0) 3 hours credit. Prerequisite: MGT 5003 or the equivalent.
An intensive course covering current literature relating to management theory and enterprise leadership.

5123 Comparative Administration
(3-0) 3 hours credit. Prerequisite: MGT 5003 or the equivalent.
Analysis of various attributes and patterns of administration in public or private enterprises operating in widely differing economic, sociocultural, educational, and technological environments. Focus on the identification and evaluation of similarities and differences among variables associated with organizations to gain a better understanding of administrative processes.

5143 Managerial Process
(3-0) 3 hours credit. For non-business majors.
Focus on the functions of the manager including planning, staffing, organizing, directing, and controlling. Emphasizes the process "school" of management. May not be taken for credit by students who have had MGT 5003 or its equivalent.

5153 Social Issues in Business
(3-0) 3 hours credit. Prerequisite: MGT 5003 or the equivalent.
Focus on the forces surrounding the secularly oriented, technologically energized, and scientifically administered business sector of Western society. Develops an understanding of the underlying and basic forces that have fostered and shaped business. Emergence of the social responsibility ethic is examined.

5173 Comparative Interamerican Administration
(3-0) 3 hours credit. Prerequisite: MGT 5003 or the equivalent.
Comparative study of Latin American and U.S. management structures and practices; institutional and behavioral considerations affecting goals and strategy; relation of administrative behavior to central government policy.

5183 Socio-Technical Systems
(3-0) 3 hours credit. Prerequisite: Graduate standing.
Introduces systems concepts and views work organizations as interacting social and technical systems open to forces from the surrounding environment. Focuses on the effects of technology on organizational and work group management, productivity, and design.

5193 Organizational Planning Techniques
(3-0) 3 hours credit. Prerequisite: Graduate standing.
A study of modern techniques utilized for planning. Included are reviews of sociopsychological techniques used in goal setting and planning and the use of PERT, CPM and other planning tools.

5203 Managerial Strategy and Systems
(3-0) 3 hours credit. Prerequisite: MGT 5003 or the equivalent.
Development of a conceptual framework for strategy, its definition, elements, and relationships to the basic functions of managing. Analysis of directional action decisions required to achieve the organization's purposes.

5233 Management of Professional and Technical Laboratories
(3-0) 3 hours credit. Prerequisite: MGT 5043 or consent of instructor.
Focuses on the operation and management of medical and scientific laboratories. Includes the development of the laboratory facilities and services, the operation of the laboratory, the management of the professional staff, and the coordination of the laboratory with other institutional units.

5263 Administration for Health Science
(3-0) 3 hours credit. Prerequisite: MGT 5043 or consent of instructor.
Exploration of basic principles of administration with emphasis on their application to health service organizations. Integrated studies in organization theory and the changing nature of management, decision process, planning and budgeting, personnel administration, control and evaluation.

5273 Health Services Systems Analysis
(3-0) 3 hours credit. Prerequisite: MGT 5043 or consent of instructor.
Organized social efforts to mobilize resources for promotion of health, prevention
of disease, and provision of medical care. Analysis of the complexities of the pluralistic American health service system.

5283 Health Systems Planning
(3-0) 3 hours credit. Prerequisite: MGT 5043 or consent of instructor.
An examination of planning principles, the use of intermediate to advanced statistical and mathematical programming techniques, and application of advanced planning-programming processes to the development of health care delivery systems.

5293 Program Evaluation in Health Care
(3-0) 3 hours credit. Prerequisite: MGT 5043 or consent of instructor.
A study of the process of program analysis and evaluations in health care. Emphasis on management information structures, process versus output evaluation, economic and cost-benefit analysis, and the use of advanced analytical techniques in the evaluation of organizational goal achievement.

5303 Literary Interpretations of American Business
(3-0) 3 hours credit.
Critically reviewing the literary portrayal given American business and businessmen, this course examines the works of authors, novelists, playwrights, and poets whose writings have been instrumental in shaping the American public's image of the free enterprise system.

5323 Statistical Methods for Business Analysis
(3-0) 3 hours credit. Prerequisites: MGT 5013 and MGT 5083.
Statistical methods for applications in the analysis of business data utilizing the general regression model, analysis of variance, and experimental design. Computerized practical examples are stressed rather than mathematical development.

5333 Small Business Development and Operation
(3-0) 3 hours credit. Prerequisite: MGT 5003 or the equivalent.
Includes the development of new business organizations, joint ventures, mergers and acquisition, and new products/services. Conceptualization of the managerial role in emerging enterprises.

5373 Simulation Analysis of Business Systems
(3-0) 3 hours credit. Prerequisites: MGT 5013 and MGT 5083 or their equivalents.
The application of simulation techniques in the analysis of a variety of business systems. Examples will include accounting, finance, economics, marketing, and management systems.

5393 Production Management
(3-0) 3 hours credit. Prerequisites: MGT 5003 and MGT 5023 or their equivalents.
An analysis of the management functions related to production: planning, design, construction control, and operational control. Special topics will include forecasting, project management via CPM/PERT, plant location and layout, production scheduling, quality control, job design, and analysis, and inventory management.

5413 Information Systems for Management
(3-0) 3 hours credit. Prerequisite: MGT 5023.
A survey of existing management information systems and procedures for planning and implementing these systems. Specific topics will include "needs" analysis, computer equipment selection, budgeting and scheduling for implementation, and post-installation utilization, modification, maintenance, and cost control.

5433 Logistics Systems Analysis
(3-0) 3 hours credit. Prerequisite: MGT 5023.
A study of the logistics requirements during the life cycles of a variety of business, industrial, and military systems. Emphasis is placed on the design, implementation, and management of logistic support systems. Specific topics will include requirements planning, procurement, maintainability, reliability, and analytical tools for evaluating logistic alternatives.

5623 Industrial Relations
(3-0) 3 hours credit.
An analysis of collective bargaining systems in organizations. Emphasis placed on
the roles of management, unions, and government in collective bargaining and
agreement administration.

5643 Personnel Management Process
(3-0) 3 hours credit. Prerequisite: MGT 5003 or the equivalent.
Management's approach to and the techniques for handling the human factor in an
enterprise to maximize the productive efficiency of the firm through sound procure-
ment, development, utilization, and maintenance of its human resources. Focus on
behavioral and social science findings as they relate to work and their implications
for personnel philosophy, policy, and practice.

5703 Labor Relations in the Not-for-Profit Industry
(3-0) 3 hours credit. Prerequisite: MGT 5623 or the equivalent.
An advanced course in labor relations for nonprofit organizations such as hospitals,
universities, service centers and social service agencies covered under the NLRB.
Emphasis will be placed on the unique roles of administrators and union leaders in
bargaining and agreement administration in this sector of the economy.

5723 Labor Relations in the Public Sector
(3-0) 3 hours credit. Prerequisite: Graduate standing.
An analysis of the unique role of labor relations at the federal, state and local level.
Consideration will be given to relevant legislation and how and why public employ-
ees organize for collective bargaining. Emphasis will be placed on the practical
aspects of bargaining and contract administration and how it relates to the public in
general.

5903 Management Policy, Problems, and Trends
(3-0) 3 hours credit. Prerequisite: Semester of graduation or minimum completion of
24 semester hours of M.B.A. work.
A case study course intended to provide a capstone coverage of material taken in
the M.B.A. program, as well as broadening the horizons of the student beyond the
focus on the firm. The macro-economic aspects of our economy and contemporary
problems and trends of business are covered.

6951 Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing
(form available) of the instructor, the student's Graduate Advisor, and the Division
Director and Dean of the College in which the course is offered.
Independent reading, research, discussion, and/or writing under the direction of a
faculty member. For students needing specialized work not normally or not often
available as part of the regular course offerings. May be repeated for credit, but not
more than 6 hours regardless of discipline will apply to the Master's degree.

6971 Special Problems
1 to 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available
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6983 Master's Thesis
3 hours credit. Prerequisites: Admission to candidacy and permission of the Gradu-
ate Advisor and thesis director.
Thesis research and preparation. May be repeated for credit, but not more than 6
hours will apply to the Master's degree. Credit will be awarded upon completion of
the thesis. Enrollment is required each term in which the thesis is in progress.

COURSE DESCRIPTIONS
MARKETING
(MKT)

5003 Marketing Theory
(3-0) 3 hours credit.
Examination of Marketing in Society and the firm. Functions, institutions, pro-
cesses, methods and issues will be examined. Emphasis will be on marketing decision-making.

5023 Marketing Management
(3-0) 3 hours credit. Prerequisite: MKT 5003 or the equivalent.
A study of current problems in the area of marketing management. Marketing practices and thought are analyzed.

5043 Consumer Behavior in Marketing Strategy
(3-0) 3 hours credit. Prerequisite: MKT 5023 or the equivalent.
Analysis of the consumer as the focal point of the economic system.

5063 Marketing Research Design and Application
(3-0) 3 hours credit. Prerequisites: MKT 5023, MGT 5013, and MGT 5083, or their equivalents.
Problems in obtaining and analyzing internal and external marketing information using various instruments, design and techniques germane to marketing.

5083 Promotion Management
(3-0) 3 hours credit. Prerequisite: MKT 5003 or the equivalent.
Uses of communication processes and programs to attain promotional goals; examination of mass and interpersonal forms of communication and the uses of sales promotion tools.

5103 Problems in Marketing Management
(3-0) 3 hours credit. Prerequisite: MKT 5023 or the equivalent.
Case problems in marketing. Designed to give the student an opportunity to utilize the material and analytical tools that have been acquired.

5123 Analysis of the Sales Function
(3-0) 3 hours credit. Prerequisite: MKT 5023 or the equivalent. Examination of current and relevant issues regarding the role of selling in the firm; discussion of communication concepts and managerial processes in goal selection and attainment for sales activities.

5143 Management of Transportation Systems
(3-0) 3 hours credit. Prerequisite: MKT 5003 or the equivalent.
Characteristics and critical comparisons of various transportation methods, the use of transportation as a component of the distribution system, rate making, labor problems, functions of the ICC, CAB and other regulatory groups, cartels, consideration of new concepts such as the increase in freight forwarders, unit trains and containerization.

5673 International Marketing and Management
(3-0) 3 hours credit. Prerequisite: MKT 5023 or the equivalent.
Analysis of the social, cultural, political and economic environment for international business; problems in organizational structure of the firm and control of international operations in the multinational firm; study of alternative marketing strategies for crossnational market development.

5683 Import-Export Marketing
(3-0) 3 hours credit. Prerequisite: MKT 5023 or the equivalent.
Analysis of theory and practice of import-export operations between North America and Latin America. Special attention to actual practices and procedures of current operations, role of middlemen, customs, and transportation.

5693 Marketing Environment in Latin America
(3-0) 3 hours credit.
Analysis of market institutions in economic development in Latin America; problems and techniques of market research in Latin America; Inter-America trade patterns; special attention to consumer behavior in the external environment for marketing in Latin America.

5963-6 Interamerican Business Internship
3 or 6 hours credit. Prerequisites: Consent of Division Director and Dean.
Work experience in interamerican business or public agency.
5983  Interamerican Business Essay
3 hours credit. Prerequisites: Consent of Division Director and Dean.
Original research report on interamerican management topic.

6951-3  Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing
(form available) of the instructor, the student’s Graduate Advisor, and the Division
Director and Dean of the College in which the course is offered.
Independent reading, research, discussion, and/or writing under the direction of a
faculty member. For students needing specialized work not normally or not often
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6983  Master’s Thesis
3 hours credit. Prerequisites: Admission to candidacy and permission of the Graduate
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Thesis research and preparation. May be repeated for credit, but not more than 6
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COLLEGE OF FINE AND APPLIED ARTS
DIVISION OF ART AND DESIGN
MASTER OF FINE ARTS DEGREE

The M.F.A. degree is the terminal degree in the field of studio art. The objective of this degree is to provide advanced study in the field of art in preparation for careers as practicing artists, artist/teachers at the college or university level, or in other art-related enterprises.

Special Admission Requirements. In addition to satisfying the university-wide graduate admission requirements, applicants are expected to have a Bachelor of Fine Arts Degree or a Bachelor of Arts Degree with a major in art or the equivalent. As part of their undergraduate degree students should have completed approximately 45 semester hours in studio art and 15 semester hours in art history. Students accepted into the M.F.A. program who have fewer than the 15 semester hours required in art history will be given a comprehensive examination early during their first semester to determine if those deficiencies may be waived.

Applicants who do not meet the special admission requirements should consult the catalog for admission criteria as special students.

In addition to filing the regular University application for admission, all applicants must submit to the Division of Art and Design for evaluation twenty slides (35mm) of their work (no portfolios unless requested), a statement describing the objectives of proposed graduate study, and three letters of recommendation.

Degree Requirements.
A minimum of 60 semester hours is required for the Master of Fine Arts degree, exclusive of course work or other study required to remove admission deficiencies.

18 hours

Major field (painting; drawing; sculpture; photography; printmaking; ceramics).

18 hours

Electives: Additional courses (other than major)
(Including at least 3 but no more than six hours outside the Division of Art & Design)

15 hours

Art history and criticism

6 hours

Master of Fine Arts Exhibition

3 hours

Master of Fine Arts Research Project

60 hours

All candidates for the degree may be admitted to candidacy at the end of one semester of full-time study or completion of 12 semester hours of graduate work. However, the Division of Art and Design recommends that candidates complete at least two semesters of full-time study or 24 hours of graduate work before being admitted to advancement to candidacy. To be admitted to candidacy a student must have an acceptable Program of Study and must be recommended for Admission to Candidacy by the appropriate Committee on Graduate Studies and Division Director and must be approved for Admission to Candidacy by the Dean. Additional requirements for Admission to Candidacy are set forth in that section of the present catalog.
COURSE DESCRIPTIONS

ART

5003 Concepts and Practices in the Visual Arts
(2-2) 3 hours credit. An exploration of the fundamental attitudes and premises governing the perception and creation of art in the visual arts.

5153 Painting
(0-6) 3 hours credit. Prerequisite: B.F.A. or equivalent.
A course providing an opportunity for students to extend their knowledge of and practice in the demands of the discipline, emphasizing various painting media and development of personal imagery. May be repeated for credit, but not more than 12 semester credit hours will apply toward the M.F.A. requirements.

5253 Drawing
(0-6) 3 hours credit. Prerequisite: B.F.A. or equivalent.
A course providing an opportunity for students to extend their knowledge of and practice in the demands of the discipline, emphasizing various drawing media and approaches for the development of imagery. May be repeated for credit, but not more than 12 semester credit hours will apply toward the M.F.A. requirements.

5353 Printmaking — (Lithography)
(0-6) 3 hours credit. Prerequisite: B.F.A. or equivalent.
A course providing an opportunity for students to extend their knowledge of and practice in the demands of the discipline, including the technical processes and an emphasis on development of personal imagery. May be repeated for credit, but not more than 12 semester credit hours will apply toward the M.F.A. requirements.

5363 Printmaking — (Intaglio)
(0-6) 3 hours credit. Prerequisite: B.F.A. or equivalent.
A course providing an opportunity for students to extend their knowledge of and practice in the demands of the discipline, including the technical processes and an emphasis on development of personal imagery. May be repeated for credit, but not more than 12 semester credit hours will apply toward the M.F.A. requirements.

5453 Photography
(0-6) 3 hours credit. Prerequisite: B.F.A. or equivalent.
A course providing an opportunity for students to extend their knowledge of and practice in the demands of the discipline, including technical processes and the development of expressive images. May be repeated for credit, but not more than 12 semester credit hours will apply toward the M.F.A. requirements.

5553 Sculpture
(0-6) 3 hours credit. Prerequisite: B.F.A. or equivalent.
A course providing an opportunity for students to extend their knowledge of and practice in the demands of the discipline, including a variety of materials and technical methods and approaches for the creation of sculpture. May be repeated for credit, but not more than 12 semester credit hours will apply toward the M.F.A. requirements.

5753 Ceramics
(0-6) 3 hours credit. Prerequisite: B.F.A. or equivalent.
A course providing an opportunity for students to extend their knowledge of and practice in the demands of the discipline, including a variety of technical processes and materials and approaches for the creation of ceramics. May be repeated for credit, but not more than 12 semester credit hours will apply toward the M.F.A. requirements.

6003 Advanced Studio Problems
(0-6) 3 hours credit. Prerequisite: Admission to Candidacy for the M.F.A. degree and consent of instructor.
Individually directed graduate projects intended to promote the student’s creative insight and performance in the designated studio concentration: Painting, Drawing, Printmaking, Sculpture, Ceramics and Photography. May be repeated for credit, but not more than 12 semester credit hours will apply toward the M.F.A. requirements.
6013 Practicum in the Visual Arts
3 hours credit. Prerequisite: Admission to Candidacy and consent of instructor.
Students will initiate projects for development outside the regular studio classroom setting. These may include community oriented activities such as workshops for community centers, special art programs for public or private educational organizations and service projects for displays, murals and exhibitions for special environments. The instructor will supervise and evaluate the students' activities. May be repeated for credit once.

6846 Master of Fine Arts Exhibition
6 hours credit. Prerequisite: Completion of course requirements in the major.
Concentrated studio activity in the major field of study emphasizing preparation of work for the concluding exhibition.

6853 Master of Fine Arts Research Project
3 hours credit. Prerequisite: Completion of course requirements in the major.
Students will prepare a research paper dealing with topics related to their creative work emphasizing critical and historical considerations. Topics will be chosen by the student in consultation with the graduate advisor upon recommendation of the Graduate Studies Committee and the approval of the Division Director and the Dean.

6951-3 Independent Study
1 to 3 hours credit. Prerequisite: Graduate Standing and permission in writing (form available) of the instructor, the student's Graduate Advisor, and the Division Director and Dean in which the course is offered.
Independent reading, research, discussion, and/or writing under the direction of faculty member. For student's needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master of Fine Arts degree.

6971-3 Special Problems
1 to 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special problems courses may be repeated for credit when the topics vary, but not more than 6 hours regardless of discipline, will apply to the Master of Fine Arts degree.

COURSE DESCRIPTIONS
ART HISTORY AND CRITICISM (AHC)

5113 Art History Methodology
(3-0) 3 hours credit. Prerequisite: Graduate standing.
A basic methodology course designed to introduce the graduate student to all facets of the discipline of Art History.

5813 Topics in the History of Art and Architecture
(3-0) 3 hours credit. Prerequisite: Graduate standing.
A lecture course designed to deal with specialized areas in art history. May be repeated for credit as topics vary.
Topics include:
Renaissance Arts
Baroque Arts
Spanish Arts
New World Hispanic Arts
Pre Columbian Arts
Contemporary Latin American Art
Mexican American and Chicano Arts
19th Century Art: Europe and U.S.
20th Century Art: Europe and U.S.
6813 Practicum in Art History and Criticism
3 hours credit. Prerequisite: Graduate standing and consent of instructor.
A form of "Learning Laboratory" in which the principles and methodologies of Art History, Art Criticism and Museology are applied in a practical manner outside the classroom in areas such as museum and gallery activities, historical preservation, research for private collections, and community oriented educational or informational functions and publications. Projects will be initiated by the students with close supervision and evaluation by the instructor. May be repeated for credit up to a maximum of 6 hours.

6823 Seminar in Art History and Art Criticism
(3-0) 3 hours credit. Prerequisite: Graduate standing in art history or related area and consent of instructor.
An intensive study of specific bodies of work in terms of form and meaning leading to a definition of style and placement of works within art historical contexts, as well as an examination of art criticism and its influences.
Topics are selected from the following areas: Spanish and other European arts and New World arts (Pre-Columbian, Colonial and Contemporary).
May be repeated for credit when topics vary.

6843 Seminar in Art Criticism
(3-0) 3 hours credit. Prerequisite: Graduate standing.
An examination of the principles and methods of critical analysis of works of art, as well as the role and influence on the art critic. Assignments include readings of selected critical texts and exercises in critical writing.

6951-3 Independent Study
1 to 3 hours credit. Prerequisite: Graduate Standing and permission in writing (form available) of the instructor, the student's Graduate Advisor, and the Division Director and Dean of the College in which the course is offered.
Independent reading, research, discussion, and/or writing under the direction of faculty member. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours regardless of discipline, will apply to the Master's degree.

6971-3 Special Problems
1 to 3 hours credit. Prerequisite: Graduate standing and consent of instructor. An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Problems Courses may be repeated for credit when the topics vary, but not more than 6 hours, regardless of discipline, will apply to a degree.
DIVISION OF MUSIC

COURSE DESCRIPTIONS

MUSIC (MUS)

5303 Survey of Music Literature: 1400-1750
(3-0) 3 hours credit. Prerequisite: Bachelor of Music degree or the equivalent.
A survey of the music to the Renaissance and Baroque periods. Included among
the composers to be studied are Des Prez, Lassus, Victoria, Esquivel, Palestrina,
Gabrieli, Schueat, Monteverdi, Scarlatti, Bach and Handel. A research paper is ex-
pected.

5313 Twentieth Century Music Literature
(3-0) 3 hours credit. Prerequisite: Bachelor of Music degree or the equivalent.
A study of compositional and structural characteristics of twentieth century music.
Includes neo-classical, tone row, neo-romantic, indeterminate, electronic, pan-
diatonic and neo-modal music.

5403 Foundation of Music Education
(3-0) 3 hours credit. Prerequisite: Bachelor of Music degree or the equivalent.
A study of historical, philosophical and psychological foundations of Music Educa-
tion. This course also develops principles of Music Education.

5423 Advanced Choral Techniques
(2-4) 3 hours credit. Prerequisite: Bachelor of Music degree or the equivalent and
experience in conducting choral ensembles.
A study of choral techniques including development of tone, phrasing, diction, anal-
ysis of repertoire, rehearsal organization and style.

5513 Advanced Conducting
(2-4) 3 hours credit. Prerequisite: Bachelor of Music degree or the equivalent and
experience in conducting.
A study of conducting techniques for the advanced conductor. Student should have
conducting experience and analytical capabilities. Individual development will be
emphasized in this course.

5732 Chamber Chorale
(0-3) 2 hours credit.
The study of selected works for mixed voices through ensemble participation in
rehearsal and performance. May be repeated for credit.

6413 Trends in Music Education
(3-0) 3 hours credit. Prerequisite: Bachelor of Music degree or the equivalent.
A study of contemporary trends in music education in the elementary school, the
middle school and the senior high school with reference to music of the Southwestern part of the United States.

6951-3 Independent Study
1 to 3 hours credit. Prerequisites: Permission in writing (form available) of the in-
structor, the student’s Advisor, and the Division Director and Dean of the College in
which the course is offered.
Independent reading, research, discussion, and/or writing under the director of a
faculty member. For students needing specialized work not normally or not often
available as part of the regular course offerings. May be repeated for credit, but not
more than 6 hours will apply to the Master’s degree.

6971-3 Special Problems
1 to 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available
as part of the regular course offerings. Special Problems Courses may be repeated
for credit when the topics vary, but not more than 6 hours, regardless of discipline,
will apply to a Master’s degree.
The Master of Arts Degree in English is designed to provide the student with a general knowledge of English and American literature, an understanding of the historical context in which that literature was produced, the opportunity to develop skills of critical analysis, and an introduction to the principal kinds of literary research.

**Special Admission Requirements.** In addition to satisfying the university-wide graduate admission requirements, the applicant must have completed at least eighteen semester hours of work (exclusive of freshman courses) in English with a grade-point average of B+ (3.3 on a 4.0 scale) in all work taken in English at the upper-division and graduate levels. These requirements may be waived in unusual circumstances upon the recommendation of the Committee on Graduate Studies and the approval of the Division Director and the Dean of the College of Humanities and Social Sciences.

**Degree Requirements.** The minimum number of semester hours required for this degree, exclusive of course work or other study required to remove admission deficiencies, is 36.

All candidates for the degree must complete:

A. 24 semester hours in the major.
   Required organized courses are:
   - ENG 5113 Bibliography and Research Methods
   - ENG 5313 Renaissance Poetry, or
   - ENG 5333 Renaissance Drama
   - ENG 5323 Shakespeare Studies
   - ENG 5413 Eighteenth-Century Poetry, or
   - ENG 5423 Eighteenth-Century Fiction
   - ENG 5513 Romantic Poetry, or
   - ENG 5523 Literature of the Victorian Period
   - ENG 5613 American Romanticism, or
   - ENG 5623 American Realism
   - ENG 5733 Twentieth-Century Poetry, or
   - ENG 5743 Twentieth-Century Fiction
   - ENG 5813 History of the English Language, or
   - ENG 5823 Structure of American English

B. 12 semester hours of electives in English or, with the approval of the Committee on Graduate Studies, the Division Director, and the Dean of the College of Humanities and Social Sciences, in a related discipline as part of a coherent program of study.

In addition to the semester-hour requirements set forth above, all candidates for the degree are required to pass the comprehensive examination. The compre-
hensive examination, composed of both written and oral portions, is offered three times a year and is normally taken in that semester in which the candidate is due to complete his or her graduate study. The comprehensive examination may be taken twice only.

A thesis is not written for the Master of Arts Degree in English.

All candidates for the degree must be admitted to candidacy normally at the end of one semester of full-time study or upon completion of 12 semester hours of graduate work. To be admitted to candidacy a student must have an acceptable Program of Study and must be recommended for Admission to Candidacy by the appropriate Committee on Graduate Studies and Division Director and must be approved for Admission to Candidacy by the Dean. Additional requirements for Admission to Candidacy are set forth in that section of the present catalog.

### COURSE DESCRIPTIONS

#### ENGLISH (ENG)

**5113 Bibliography and Research Methods**
(3-0) 3 hours credit.
Methods of literary study and research; the techniques of literary scholarship; basic bibliographical tools and format; fundamental approaches to literary criticism.

**5123 Theory of Literature**
(3-0) 3 hours credit.
Concentration on the history of literary theory, tracing the development of Platonic and Aristotelian conceptions of literary form and meaning from the Greeks through Romantic artists and theorists; study of problems in post-Kantian aesthetics, particularly as they are manifested in contemporary literary theory and criticism.

**5183 Problems in Teaching English**
(3-0) 3 hours credit.
Advanced study of materials for teaching English literature and composition in the secondary school and junior college; application of electronic media to teaching literature; application of rhetoric and linguistics to problems in the teaching of composition.

**5193 Practicum in English Composition**
3 hours credit. Prerequisite: ENG 5183 or consent of instructor.
Supervised Writing Laboratory experience in diagnosing and working with problems in English Composition. Application of traditional and recent theories of composition instruction. Areas of investigation include: dialects, rhetorical theories, basic writing issues, theoretical linguistics, and methods of evaluation.

**5213 Chaucer Studies**
(3-0) 3 hours credit.
Review of the Canterbury Tales, detailed study of Troilus and Criseyde, and reading of other poems. To be read in Middle English.

**5313 Renaissance Poetry**
(3-0) 3 hours credit.
Critical survey of verse of the sixteenth and seventeenth centuries; emphasis on Spenser, Donne, Jonson, Herbert, and Marvell.

**5323 Shakespeare Studies**
(3-0) 3 hours credit.
Reading and analysis of representative plays.

**5333 Renaissance Drama**
(3-0) 3 hours credit.
Critical survey of the drama to 1642 (exclusive of Shakespeare); emphasis on Marlowe, Kyd, Jonson, Webster, and Middleton.
5343 Milton Studies
(3-0) 3 hours credit.
Reading and analysis of the major poems and selected prose.

5413 Eighteenth-Century Poetry
(3-0) 3 hours credit.
Study of the transition from Neo-classicism to Romanticism; emphasis on the works of Dryden, Pope, Thomson, and Burns.

5423 Eighteenth-Century Fiction
(3-0) 3 hours credit.
Reading and analysis of representative works of fiction; emphasis on Defoe, Swift, Richardson, Fielding, Smollett, Sterne, and Austen.

5513 Romantic Poetry
(3-0) 3 hours credit.
Reading and analysis of verse of the Romantic period; emphasis on Blake, Wordsworth, Coleridge, Byron, Shelley, and Keats.

5523 Literature of the Victorian Period
(3-0) 3 hours credit.
Critical survey of verse and prose (including fiction) of the Victorian period; emphasis on Dickens, Eliot, Browning, Tennyson, Arnold, and Hardy.

5613 American Romanticism
(3-0) 3 hours credit.
Reading and analysis of verse and prose (including fiction) of the American Romantic movement; emphasis on Poe, Hawthorne, Emerson, Thoreau, Melville, Dickinson, and Whitman.

5623 American Realism
(3-0) 3 hours credit.
Reading and analysis of prose (including fiction) of the Realists and Naturalists; emphasis on the work of Howells, Twain, Crane, James, and Dreiser.

5723 Contemporary Literature
(3-0) 3 hours credit.
Reading and analysis of important contemporary British and American writers; emphasis on such writers as Bellow, Malamud, Plath, and Lowell.

5733 Twentieth-Century Poetry
(3-0) 3 hours credit.
Reading and analysis of the major British and American poets of the first half of this century; emphasis on Yeats, Stevens, Eliot, Frost, Roethke, Cummings, Auden, and Thomas.

5743 Twentieth-Century Fiction
(3-0) 3 hours credit.
Reading and analysis of the major British and American novelists of the first half of this century; emphasis on Conrad, Joyce, Virginia Woolf, Faulkner, Fitzgerald, and Hemingway.

5813 History of the English Language
(3-0) 3 hours credit.
A study of the historical development of the lexicon and the phonological, morphological, and syntactic patterns of English. Attention to the dialectal variety during the early stages of the language as well as to the distinctive characteristics of the Old, Middle, and Modern English periods.

5823 Structure of American English
(3-0) 3 hours credit.
Introduction to formal analysis and description of the structural characteristics of American English on the phonological, morphological, syntactic, and semantic levels, with attention to contemporary variation and to modern theoretical description of regional and social dialects.
6113  Studies in English and American Literature  
(3-0) 3 hours credit.  
Detailed study of a topic in English and/or American literature. Topics may include: medieval literature, Restoration and eighteenth-century drama, American literature of the colonial period, modern drama. May be repeated for credit when topics vary.

6951-3  Independent Study  
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor, the student's Graduate Advisor, and the Division Director and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master's Degree.

6971-3  Special Problems  
1 to 3 hours credit. Prerequisite: Consent of instructor. An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Problems courses may be repeated for credit when the topics vary, but not more than 6 hours, regardless of discipline, will apply to the Master's Degree.
DIVISION OF FOREIGN LANGUAGES

MASTER OF ARTS DEGREE IN SPANISH

The Master of Arts Degree in Spanish offers the student a view in depth of Hispanic literature, culture, and language underscoring the unity of the Hispanic world rather than its national components. Elective courses in linguistics further the student’s grasp of the Spanish language in its geographical, cultural, and social variations. Comparative literature elective courses permit the candidate an opportunity to place contributions of the Hispanic heritage within the context of world literature, to perceive relationships among literatures, and to discern what is uniquely Hispanic. Within the M.A. degree in Spanish, concentrations are offered in Hispanic Culture, Hispanic Literatures, and Spanish Language. The degree program in Spanish prepares the student for careers in education, government, business, and social service.

Special Admission Requirements. In addition to satisfying the university-wide graduate admission requirements, applicants are expected to have a bachelor’s degree with a major in Spanish or the equivalent and an adequate command of both written and oral Spanish, and must submit scores on the Advanced Test in Spanish of the GRE, three letters of recommendation, statement of purpose, and schedule a personal interview with the Graduate Advisor of Record. Knowledge of a second foreign language is strongly recommended.

Degree Requirements: The minimum number of semester hours required for this degree, exclusive of course work or other study required to remove admission deficiencies, is 36.

All candidates for the degree must complete:

A. 9 semester hours in the major. Required organized courses are:
   - SPN 5833 Structure of Spanish
   - SPN 6703 Concepts of Hispanic Culture: The Dynamics of Change
   - SPN 6853 Theory of Literature

B. 12 semester hours from one group of elected concentration courses.

Concentration Courses

Hispanic Culture:
   - SPN 6813 Seminar in Hispanic Cultures
   - SPN 6823 Modern Hispanic Cultures

An additional 6 hours as approved by the Committee on Graduate Studies, the Division Director and the Dean to be chosen from among appropriate divisional offerings or from appropriate courses in related disciplines (e.g.: Art History and Criticism, History, Anthropology, Bicultural-Bilingual Studies).

Hispanic Literatures: Student must take one course in each of four groups:

1. SPN 5623 Hispanic Literature of the Middle Ages
   - SPN 5633 Hispanic Renaissance Literature
   - SPN 5663 Hispanic Baroque Literature

2. SPN 5723 Spanish Realism and Naturalism: From Freedom to Determinism

*With approval of the Committee on Graduate Studies, the Division Director and the Dean, other courses may be substituted to individualize a student's degree program.
COURSE DESCRIPTIONS  

SPANISH (SPN)

5373 Research Methods in Bibliography in Hispanic Studies  
(3-0) 3 hours credit.  
Methods of research, basic bibliographical tools, critical terminology, techniques of
scholarly writing, library procedures applied to Hispanic language, culture, and literature.

**5623 Hispanic Literature of the Middle Ages**  
(3-0) 3 hours credit.  
Individual works as representative of the Medieval world view, the mixture of Western and Eastern cultures, and the initiation of genres from the tenth century to the beginning of the Renaissance.

**5633 Hispanic Renaissance Literature**  
(3-0) 3 hours credit.  
A study of Hispanic Renaissance epics, lyric poetry, prose, and drama. Medieval survivals and Italian innovation. The Spanish awareness of the New World and its reflections in literature. Spaniards' writing from Spanish America and their themes: landscape, man, ethics, the Conquest.

**5643 Don Quijote**  
(3-0) 3 hours credit.  
A study of the novel's narrative structure, literary motifs, stylistic devices, and ideological background. The meaning of *Don Quijote* in Western tradition.

**5663 Hispanic Baroque Literature**  
(3-0) 3 hours credit.  
A study of Hispanic Baroque both in Spain and Spanish America. Literary genres, themes, style, and ideological background.

**5673 The Enlightenment and Romanticism in the Hispanic World**  
(3-0) 3 hours credit.  
Selected readings in the essay, poetry, and drama to illustrate Hispanic manifestations of the new literary genres, themes and styles generated by the eighteenth century Enlightenment and the Romantic Revolution.

**5683 Spanish-American Realism and Naturalism**  
(3-0) 3 hours credit.  
Selected readings exemplifying the development of narrative prose from the *cuadros de costumbres* of the mid-nineteenth century through the *regionalista*, *indigenista* and *indigenista* writings in the twentieth century.

**5723 Spanish Realism and Naturalism: From Freedom to Determinism**  
(3-0) 3 hours credit.  
Theory and practice. Selected readings in nineteenth century Spanish prose from Larra to Blasco Ibanez exemplifying the trend from freedom to determinism.

**5743 Modernism and the Generation of '98**  
(3-0) 3 hours credit.  
The cosmopolitan concept of art for art's sake at the turn of the century contrasted to literature as the search for national and personal roots. Selected readings from both Spain and Spanish America.

**5753 Twentieth Century Spanish-American Poetry**  
(3-0) 3 hours credit.  
Studies of the major works from the vanguard movement to the present.

**5763 Twentieth Century Spanish-American Prose**  
(3-0) 3 hours credit.  
Examination of works with emphasis on literary innovations and new currents in the novel and short story.

**5783 Twentieth Century Spanish Poetry**  
(3-0) 3 hours credit.  
Studies of the major works from the generation of '27 to the present.

**5793 Twentieth Century Spanish Prose**  
(3-0) 3 hours credit.  
Examination of works with emphasis on literary innovations and new currents in the novel and short story.
100 / SPANISH

5803 Mexican-American Literature
(3-0) 3 hours credit.
Mexican-American literature in the realm of the Hispanic tradition. Similarities and divergences. Its ethnic, social and linguistic characteristics. Its correlation with various forms of artistic expression. Genres, themes, and authors. Localism and universality.

5833 Structure of Spanish
(3-0) 3 hours credit.
Introduction to the formal framework of analysis and description of the structural characteristics of Spanish on the phonological, morphological, and syntactic levels with attention to structural features of Spanish-American variants.

5843 History of the Spanish Language
(3-0) 3 hours credit.
Chronological development of the Spanish language. Sound changes and morphosyntactic changes as processes in a living community; attention given to linguistic features produced through cultural contacts and interaction.

5863 Spanish Phonetics and Phonology
(3-0) 3 hours credit.
The framework of articulatory phonetics and its application to the description of Spanish. Analysis of the sound system of Spanish from both the structuralist and transformational points of view. Attention given to regional and social variation.

5873 Advanced Studies in Spanish Grammar
(3-0) 3 hours credit.
Readings and discussions of a variety of studies on Spanish grammar and in-depth analysis of selected problems.

5883 Spanish Syntax
(3-0) 3 hours credit.
Introduction to the modern framework of grammatical description and the application of it to Spanish. Consideration of the major syntactic patterns in Spanish and their relevance for achieving an in-depth command of Spanish usage.

5893 Hispanic Dialectology
(3-0) 3 hours credit.
A study of regional and social variation of Spanish with regard to pronunciation, grammar, and vocabulary. Special attention to San Antonio, Mexican American, and Mexican Spanish.

6703 Concepts of Hispanic Culture: The Dynamics of Change
(3-0) 3 hours credit.
A profile of the geography and regional dialects, the races and religions, the economics and politics of the Spanish-speaking world as seen through the eyes of both literary and non-literary figures.

6813 Seminar in Hispanic Cultures
(3-0) 3 hours credit.
Studies of different facets of Hispanic civilization such as: Christian and non-Christian cultures; "Civilization and Barbarism"; Revolutionary Movements and the Arts; Conquest and mestizaje. May be repeated for credit when topics vary.

6823 Modern Hispanic Cultures
(3-0) 3 hours credit.
Studies of cultural expression of particular ethnic groups and regions such as: Spanish-speaking Minorities in the U.S.; the Afro-Antillian Culture; Cultures of the River Plate, Mexico and Venezuela; Indian Cultures. May be repeated for credit when topics vary.

6833 Seminar in Hispanic Literatures
(3-0) 3 hours credit.
Studies of independent topics not covered in the regular sequence of Hispanic literature courses. Stress will be on research. May be repeated for credit when topics vary.
6843 Seminar in Hispanic Linguistics
(3-0) 3 hours credit.
Studies of independent topics not covered in the regular sequence of Hispanic linguistics courses. Stress will be on research. May be repeated for credit when topics vary.

6853 Theory of Literature
(3-0) 3 hours credit.
Essential problems of literary theory and critical methodology. Areas covered generally include language as literature, literature and society, literature as symbolic form, genres, motifs and themes, periods, styles, and generations.

6951-3 Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor, the student's Graduate Advisor, and the Division Director and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

6971-3 Special Problems
1 to 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Problems courses may be repeated for credit when the topics vary, but not more than 6 hours, regardless of discipline, will apply to a Master's degree.

6983 Master's Thesis
3 hours credit. Prerequisite: Admission to candidacy and permission of the Graduate Advisor and thesis director.
Thesis research and preparation. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master's degree. Credit will be awarded upon completion of the thesis. Enrollment is required each term in which the thesis is in progress.

COURSE DESCRIPTIONS
COMPARATIVE LITERATURE
(CL)

5013 Theory of Comparative Literature
(3-0) 3 hours credit.

5023 Genre Studies
(3-0) 3 hours credit.
Examination of genres or sub-genres in terms of their distinctive features and diachronic development.

5033 Motif Studies
(3-0) 3 hours credit.
The course will focus on literary motifs and trace their development through a variety of texts and cultures.

5133 Renaissance, Mannerism, Baroque
(3-0) 3 hours credit.
A comparison of European literary styles and their ideological background from the fifteenth to the seventeenth centuries.
102 / COMPARATIVE LITERATURE — LINGUISTICS

5153 Romanticism, Realism, Naturalism
(3-0) 3 hours credit.
Study of European, North and South American literary styles from the termination of the Enlightenment to the end of the nineteenth century.

5213 Major Authors
(3-0) 3 hours credit.
Juxtaposition of authors from varying traditions, demonstrating the commonality of literary experience.

5223 Twentieth Century Studies
(3-0) 3 hours credit.
The study of Symbolism, Modernism, Expressionism, Surrealism, and Existentialism.

6213 Literature and the Other Arts
(3-0) 3 hours credit.
Examination of the relationship between literature and one or more of the other arts (e.g., painting, music, sculpture, film). The course will focus both on specific works of art and on the validity of comparing the arts.

COURSE DESCRIPTIONS
LINGUISTICS
(LNG)

5013 Sociolinguistics
(3-0) 3 hours credit. Prerequisite: LNG 3813 or equivalent or consent of instructor. Theory, research, and field collection of data for the study of linguistic variation that can be related to social, economic, geographical, and other aspects of cultural groups in various societies.

5023 Psycholinguistics
(3-0) 3 hours credit. Prerequisite: LNG 3813 or equivalent or consent of instructor. The study of the empirical evidence for linguistic hypotheses in human behavior, i.e., the validation of hypotheses about competence on the basis of actual performance. Relationship between first and second language acquisition and development; relationship between language and thought.

5043 Phonology
(3-0) 3 hours credit. Prerequisite: LNG 3813 or equivalent or consent of instructor. Analysis of the sound systems of various languages and the formulation of descriptions to explain them. Readings in both structuralist and generative descriptions.

5053 Grammatical Models and the Development of Linguistics
(3-0) 3 hours credit. Prerequisite: LNG 3813 or equivalent or consent of instructor. Description and comparison of various grammatical models with emphasis on the Twentieth Century and the relationship of these models to earlier approaches to language study.

5063 Theory of Syntax
(3-0) 3 hours credit. Prerequisite: LNG 3813 or equivalent or consent of instructor. Analysis of grammatical problems and consideration of adequate ways of describing and explaining them.

5073 Historical Linguistics and Language Families
(3-0) 3 hours credit. Prerequisite: LNG 3813 or equivalent or consent of instructor. The comparison of historically related languages and the methods of reconstructing their common ancestor. The nature of language change. A survey of the family grouping of some of the languages of the world, with attention given to structural differences.

5083 History of Linguistics
(3-0) 3 hours credit. Prerequisite: LNG 3813 or equivalent or consent of instructor. A history of the various stages of the development of linguistics as a discipline in the Western World.
5093 Language Variation
(3-0) 3 hours credit. Prerequisite: LNG 3813 or equivalent or consent of instructor.
Geographical variation of language, comprised of traditional dialectology and linguis-
tic geography, including work with linguistic atlases. Social variation of lan-
guage, with attention to its role in language change and the development of dia-
lects.

5113 Computer-Assisted Research in Language Study
(3-0) 3 hours credit. Prerequisite: LNG 3813 or equivalent or consent of instructor.
Familiarization with the capabilities and limitations of the computer in problems
involving language. Learning and utilizing a computer language in linguistic analy-
sis, literary text analysis, or any application where the data are essentially strings
of words.

5123 Contrastive Linguistics
(3-0) 3 hours credit. Prerequisite: LNG 3813 or equivalent or consent of instructor.
A comparison of the salient phonological, syntactical, and semantic features of
various languages with a pragmatic explanation of the difficulties which the differ-
ences in structure cause the speaker of one language in learning another.

5133 Semantics
(3-0) 3 hours credit. Prerequisite: LNG 3813 or equivalent or consent of instructor.
The structure of meaning involving the arbitrary association of various morphemes
with things and situations. The concept of the linguistic sign. Symbol and referent.
Denotation and connotation.

5143 Linguistic Structures
(3-0) 3 hours credit. Prerequisite: LNG 3813 or equivalent or consent of instructor.
The study and analysis of language structures from various theoretical points of
view including structural and generative-transformational.
Division of Social Sciences

Master of Arts Degree in History

Degree. The Master of Arts program in History is founded on two objectives. The first is to build an awareness of history as an intellectual enterprise and an identification with the scholars who carry it forward. While it is necessary to be acquainted with the findings of historians, it is also essential to appreciate the discipline as a scholarly venture and to participate actively in that venture.

The second objective is to examine in detail one of several areas of historical study, with cross-disciplinary coursework serving to broaden the student's ability to interpret historical data. The program of study incorporates an integrated body of formal courses, supervised study, and an original research project.

The sequence of courses selected by the Master's student must build to a coherent and definable area of emphasis. Possible areas of emphasis are: 1) Historical Studies of the U.S.-Mexican Borderlands, 2) Historical Process and Literature in Latin America, 3) the Overseas Expansion of Europe, and 4) American Social History. Prospective students should consult the Division's Graduate Advisor for approved courses in each area.

Degree Requirements. The minimum number of semester hours required for this degree, exclusive of course work or other study required to remove admission deficiencies, is 33.

All candidates for the degree must complete:

A. 27 semester hours of course work, of which 9 may be in fields other than history.

B. 6 semester hours of HIS 6983, Master's Thesis.

In addition to the semester-hour requirements set forth above, all candidates for the degree are required to pass the comprehensive examination. The comprehensive examination, covering the student's program and area of specialization, is scheduled for the final semester of course work. Satisfactory performance on the comprehensive examination is required for enrolling in HIS 6983, Master's Thesis.

The Master's thesis is written under the supervision of the student's thesis advisor. The thesis is based on original scholarship and is required of all degree students except those who, in the judgment of the history faculty and Division Director of the Division of Social Sciences, have previously completed equivalent scholarly work. A student for whom the Master's thesis is waived will take 36 semester hours of course work, 9 of which may be in fields other than history.

All candidates for the degree must be admitted to candidacy normally at the end of one semester of full-time study or upon completion of 12 semester hours of graduate work. To be admitted to candidacy a student must have an acceptable Program of Study and must be recommended for Admission to Candidacy by the appropriate Committee on Graduate Studies and Division Director and must be approved for Admission to Candidacy by the Dean of the College of Humanities and Social Sciences. Additional requirements for Admission to Candidacy are set forth in that section of the present catalog.

Competence in a foreign language will be required where warranted based on the nature of the program and course work sought by the student. The language requirement will be determined at the time a student is accepted into the graduate program and must be satisfied prior to beginning the Master's thesis. The level of competence required may range from basic reading ability and
translation skills through conversational ability and will be measured by means
determined by the Division faculty. Prospective applicants are urged to consult
with the Division Graduate Advisor of Record if deficiencies in this area are
anticipated.

COURSE DESCRIPTIONS
HISTORY
(HIS)

5013 Historiography
(3-0) 3 hours credit.
An examination of the nature of history, historical method, appraisal of sources,
and presentation of results. A research paper is normally required.

5123 The American Revolution, 1763-1789
(3-0) 3 hours credit.
A history of British America from the imperial crisis of 1763 to the ratification of
the United States Constitution in 1789, with emphasis on the early beginnings of
the American nation, and social, economic, military, and cultural features of the
revolutionary movement.

5143 The Civil War, Reconstruction and American Society
(3-0) 3 hours credit.
The social background and causes of the Civil War and the impact of the war and
of Reconstruction on society and politics.

5163 The American Frontier Experience
(3-0) 3 hours credit.
A history of the westward movement of population from the Atlantic seaboard to
the mid-continent, treating particularly the frontier thesis of Frederick Jackson
Turner. Emphasis on the effects of the frontier experience upon American social
structure, politics, economy, life style and attitudes as influenced by the changing
frontier.

5173 History of United States Immigration
(3-0) 3 hours credit.
The emergence and impact of immigrant groups in the United States, from colonial
times to the present, with special emphasis on patterns of settlement, assimilation,
acculturation, discrimination, cultural resistance and preservation, and the contri-
butions of immigrants to the American experience.

5183 The Rise of American Industrial Society, 1877-1929
(3-0) 3 hours credit.
The political, economic, cultural, and social evolution of industrial society in the
United States from 1877 to 1929, focusing on reactions to the growth of big busi-
ness and organized labor and their impact on urbanization. Significant develop-
ments include the emergence of the United States as an industrial power, the Pop-
ulist Revolt, neo-imperialism, the Progressive Era, and the Great Depression.

5193 The Emergence of Modern America, 1928 to the Present
(3-0) 3 hours credit.
Analysis of recent American history with emphasis upon the rise of the United Sta-
tes as a world power, the Great Depression, FDR and the New Deal, World War II,
the Cold War, and an assessment of the administrations of recent presidents.

5203 Seminar in American State and Local History
(3-0) 3 hours credit.
The relationship of local and immediate events to national and regional affairs; the
possibilities for classroom use of local history in stimulating student interest in
broader historical matters; use of local source materials such as county, commu-
nity, and private documents.

5283 The Spanish Borderlands, 1521-1821
(3-0) 3 hours credit.
A comprehensive study of Spanish exploration and colonization in the borderlands
adjacent to the international boundary between the Southwestern United States and Mexico. Emphasis on Hispanic institutions and cultural values which shaped the development of a frontier society on the eve of Mexican independence. Attention is given to bibliographic sources and specialized readings.

5273 The Mexican Borderlands Since 1821
(3-0) 3 hours credit. Prerequisite: HIS 5263 recommended.
A continuation of The Spanish Borderlands, 1521-1821, with a comparative description and analysis of the historical development of Texas, New Mexico, Arizona, and California from the Treaty of Guadalupe Hidalgo to the twentieth century.

5293 The Trans-Mississippi West
(3-0) 3 hours credit.
A regional history of the exploration, acquisition, settlement, and development of the territory west of the Mississippi River in the nineteenth and twentieth centuries, with emphasis on the influences of the frontier upon Spanish and Anglo-American institutions.

5353 Seminar In Texas History
(3-0) 3 hours credit.
An examination in broad perspective of significant historical trends in Texas, covering such topics as exploration, migration, settlement, political growth, economic development, and cultural conflict and confluence. Attention to archival resources, bibliography and current instructional materials.

5403 History of Mexico and Guatemala: The Colonial Period
(3-0) 3 hours credit.
Survey and detailed examination of the major events, trends and developments during the period of Spanish domination from 1521 to 1810. Consideration will be made of the legacy of native culture and social systems from the Pre-Hispanic past. Demographic, social and economic disruptions and readjustments in the early colonial period; the viceroyalty.

5413 History of Mexico: The Republican Period
(3-0) 3 hours credit.
A detailed survey of Mexican history from independence to the present, concentrating on the Santa Anna period, the United States-Mexican War, the Juarez reforms, the rise and decline of Porfirián rule, and the significance of the Revolution of 1910 and its aftermath.

5443 History of South America: The Colonial Period
(3-0) 3 hours credit.
Includes consideration of the Caribbean; Portuguese colonization of Brazil; the conquest of Peru and the civil wars; the conflict between crown and colonists over native populations; Jesuit settlements in Paraguay; social, political and cultural developments within the colonies; the economic basis of The Wars of Independence.

5453 History of South America: The Early Republican and Modern Periods
(3-0) 3 hours credit.
The Wars of Independence; conservative/liberal conflicts and civil wars in the early republican period; the War of the Pacific; social, economic and political developments; Brazil as a separate tradition; Relations between South American republics and the United States; the Panama Canal incident; European immigration; industrialization and social change; World War II; demographic changes and foreign immigration; Communism and revolutionary movements; Castro and Cuba.

5483 Latin American Leaders of the Republican Period: A Biographical Approach
(3-0) 3 hours credit.
The biographical approach to Latin American history; problems of biographical research on post-independence leaders; the militaristic legacy of The Wars for Independence and the rise of the caudillo; major biographers and their works; the lives of major republican Latin American leaders and their influence on the course of Latin American history and culture.
5503 Seminar in the History of Mexico  
(3-0) 3 hours credit.  
An examination of selected issues of Mexican history such as the role of the Church in Mexican society in colonial and republican Mexico, the colonial legacy, problems in U.S.-Mexican relations, and causes of the Revolution of 1910. Individual research in primary and secondary sources will be emphasized.

5563 The Age of Exploration: Fifteenth Through Seventeenth Centuries  
(3-0) 3 hours credit.  
An analysis of European discovery, exploration, economic expansion, and initial colonization in Asia, Africa, and America, with special attention to the operation of European imperial systems in the seventeenth century and the impact of the European presence on indigenous societies.

5573 The Age of Imperialism: Eighteenth Through Twentieth Centuries  
(3-0) 3 hours credit.  
Imperial rivalries, industrialization and imperialism, late nineteenth century imperialism, indigenous reactions, decolonization, and national liberation movements.

5633 English History From the Seventeenth Century  
(3-0) 3 hours credit.  
Selected aspects of English history from the seventeenth century to the present with attention to English political evolution, industrialization and economic change, social mobility in England, and the growth and development of the British Empire.

5643 European History, 1618-1815  
(3-0) 3 hours credit.  
Significant aspects of early modern European history will be considered, including economic and social change in Western Europe, the Scientific Revolution of the seventeenth Century, enlightened despotism and the French Revolution.

5663 European History Since 1815  
(3-0) 3 hours credit.  
Significant issues in modern European history, with attention to the methods and assumptions of different categories of historical interpretation. Topics include the Congress of Vienna, the Revolutions of 1848, the industrialization of Europe, the cultural effects of the first World War, and the rise of Hitler.

5753 Africa to 1800: The Rise of African States and the Slave Trade  
(3-0) 3 hours credit.  
The evolution of major African civilizations and states and the impact of commercial slavery. An analysis of the concepts of state and state building, trade, economic structure, and culture in the setting of African history.

5763 Africa Since 1800: Colonial Rule to Independence  
(3-0) 3 hours credit.  
A study of the nineteenth century European partition of Africa, the introduction and operation of colonial administrations, the evolving relationships between indigenous societies and the imperial powers, the rise of African opposition to colonial rule, and the spread of nationalism.

5773 The Middle East and North Africa Since 1600  
(3-0) 3 hours credit.  
An advanced survey of Middle Eastern and North African history since 1600, emphasizing the growth and decline of the Ottoman and Safavid empires, the incursion of European powers in the nineteenth and twentieth centuries, the partition of the Ottoman Empire, and the growth of Arab, Turkish, and Iranian nationalism.

6113 Law and Society in America  
(3-0) 3 hours credit. Prerequisite: HIS 5013 recommended.  
An examination of the role of law as both a reflection and initiator of change in American life, from colonial times to the present. Subjects will range from 17th century slavery to the equal rights revolution of the twentieth century.
6123 A History of Technology and Social Change in America
(3-0) 3 hours credit.
An examination of the socio-economic context in which inventions occur, the inventions themselves, and their impact on society. The emphasis will be on the social uses and consequences of particular inventions rather than upon technical problems associated with their development.

6133 Reform Movements in American History
(3-0) 3 hours credit.
An examination of the origins, development and achievements of selected reform movements from the eighteenth century to the present. Specific subjects will vary, but may include such attempts at reform as revivalism, abolitionism, populism, progressivism, and civil rights.

6353 Research Seminar in Southwest History
(3-0) 3 hours credit. Prerequisite: At least one course in Southwestern or Colonial Latin American history, or permission of instructor.
Examination and analysis of selected topics relating to the borderlands of Mexico and the United States from the sixteenth to the twentieth centuries. Supervised preparation of a research paper.

6503 Research Seminar in Latin American History
(3-0) 3 hours credit. Prerequisite: At least one graduate-level course in Latin American history or permission of instructor.
Analysis of major primary and secondary research materials in selected areas of Latin American history and a consideration of interpretive methods. Supervised research projects.

6603 Research Seminar on the Expansion of Europe and Imperialism
(3-0) 3 hours credit. Prerequisites: HIS 5563, HIS 5573, or permission of instructor.
An examination of research materials pertinent to the history of European expansion, of methodologies developed to interpret them, and of historical questions guiding inquiry in the field. Supervised preparation of a research paper; interdisciplinary approaches will be emphasized.

6703 Research Seminar in American Social History
(3-0) 3 hours credit. Prerequisite: At least one graduate-level course in United States history or permission of instructor.
An analysis of the concepts of social history, its breadth and scope. Primary attention will be given to the original sources available to the social historian and to the methods of evaluating them. Each student will prepare a research paper on an appropriate topic.

6951-3 Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor, the student's Graduate Advisor, and the Division Director and Dean of the College in which the course is offered.
Independent reading, research, discussion, and/or writing under the direction of a faculty member. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

6971-3 Special Problems
1 to 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Problems courses may be repeated for credit when the topics vary, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

6983 Master's Thesis
3 hours credit. Prerequisites: Admission to candidacy and permission of the Graduate Advisor and thesis director.
Thesis research and preparation. May be repeated for credit, but not more than 6 hours will apply to the Master's degree. Credit will be awarded upon completion of the thesis. Enrollment is required each term in which the thesis is in progress.
COURSE DESCRIPTIONS
ANTHROPOLOGY (ANT)

5013 History and Theory of Cultural Anthropology
(3-0) 3 hours credit.
A survey of the problems which are central to the anthropological study of culture, with attention to evolutionary, historical and functional points of view.

5023 History and Theory of Archaeology
(3-0) 3 hours credit.
A survey of the history and development of Archaeology; research techniques; method and theory of prehistoric research.

5133 Regional Native Cultures of North America
(3-0) 3 hours credit.
A survey of native cultures ranging from the Arctic to the Woodlands of Eastern North America, and the Greater Southwest. The rise of regional variation, the role of native religious movements, the influence of natural environment, and continuities into the historical present are considered.

5143 Ethnology of Mesoamerica
(3-0) 3 hours credit.
Examination of the cultural diversity of the native and ladino cultural traditions of Mexico and Guatemala. The period covered is the colonial through the recent period although emphasis is on the latter. Community studies of traditional communities, social, structural and economic systems studies, urban anthropology, and other sources are utilized.

5153 Seminar in Mexican-American Culture
(3-0) 3 hours credit.
A survey of Mexican-American culture. Special studies in ethnology, ethnography, folklore, and linguistics.

5203 Language, Culture, and Cultural Change
(3-0) 3 hours credit.
Analysis of the nature and function of language and non-verbal communication. Problems of cross-cultural communication and acculturation in relation to cultural conflict with particular emphasis on the Mexican-American. Includes cultural dynamics and directed change.

5223 Medical Anthropology
(3-0) 3 hours credit.
Consideration of cultural factors in the practice of medicine, training of physicians, attitudes toward drugs and medical personnel. Psychological elements and value systems in traditional societies and their non-medical explanations and attitudes toward disease, trauma, curing, and preventive medicine.

5423 Archaeological Backgrounds of Mesoamerica
(3-0) 3 hours credit.
Review of Mesoamerican prehistory from late Pleistocene times to the fall of Tenochtitlan. Emphasis will be placed on social and technological development sequences, the growth and decline of political states, linkages to natural settings, interaction among cultures, and continuities into the historical present.

5433 Archaeological Backgrounds of the Middle East, the Mediterranean, and Europe
(3-0) 3 hours credit.
Examination of the major events of prehistory in the area, the establishment of agricultural life, the development of urbanism, and the interaction of the various zones of the area in the evolution of civilization.

5554 Field Course in Archaeology
(2-12) 4 hours credit. Prerequisite: Consent of instructor.
Advanced training in field procedures, and their applications to problem-oriented field research. Students may not enroll in other courses concurrently except for ANT 6442. May be repeated for credit.
6113 Seminar in the Anthropology of Mesoamerica
(3-0) 3 hours credit. Prerequisite: ANT 5143 or 5423 or permission of instructor.
Attention is centered on a limited number of significant problems in Mesoamerican
anthropology to which materials from archaeology, ethology and ethnohistory con­
tribute. Examples of such problems are: demography and the rise of Mayan empire,
roots of Mesoamerican peasant culture, and distribution analysis of cultural and
language variance. May be repeated for credit when topics vary.

6442 Supervised Field Research
(0-12) 2 hours credit. Prerequisite: Consent of instructor.
Offered only during the summer, this course must be taken concurrently with ANT
5554. The course is designed to provide intensive training and requires the student
to carry out independent research and analysis of field data. May be repeated for
credit.

6951-3 Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing
(form available) of the instructor, the student’s Graduate Advisor, and the Division
Director and Dean of the College in which the course is offered.
Independent reading, research, discussion, and/or writing under the direction of a
faculty member. For students needing specialized work not normally or not often
available as part of the regular course offerings. May be repeated for credit, but not
more than 6 hours, regardless of discipline, will apply to a Master’s degree.

6971-3 Special Problems
1 to 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available
as part of the regular course offerings. Special Problems courses may be repeated
for credit when the topics vary, but not more than 6 hours, regardless of discipline,
will apply to a Master’s degree.

**COURSE DESCRIPTIONS**

**GEOGRAPHY (GRG)**

5103 The Regional Geography of the Greater Southwest
(3-0) 3 hours credit.
The physical and cultural characteristics of the American Southwest, including
Texas, and the adjacent parts of Mexico. Both Pre-Hispanic and European periods
are considered.

5113 Cultural and Physical Geography of North America
(3-0) 3 hours credit.
Physical and cultural characteristics of the human use of the North American con­
tinent both in aboriginal times and after European contact. Ecological zoning, set­
tlement patterning, demographic developments, cultural influence and modifica­
tion of the landscape are among the topics covered.

5123 Cultural and Physical Geography of Middle America
(3-0) 3 hours credit.
Physical and cultural characteristics of human occupation of the area between the
Greater Southwest and South America. Ecological and cultural diversity, economic
interdependence, demographic history, aboriginal and European land use are in­
cluded in the course.

5143 Cultural and Physical Geography of the Mediterranean and Europe
(3-0) 3 hours credit.
Consideration of the prehistoric and historic periods in ecological interaction with
human populations. Such matters as central place theory, etc., are used to explain
settlement patterns and economic developments. Topics such as the Roman sub­
sistence dependence on North Africa are included.
5303 Economic Geography
(3-0) 3 hours credit.
Substantive and theoretical consideration of the economic implications of geography. Topics include the development of industrial patterns, subsistence patterns, transportation systems, and resource exploitation. Central place theory, Boserup's theory of agricultural growth, and other theoretical matters are considered.

5313 Urban Settlements
(3-0) 3 hours credit.
A cross-national analysis of the distribution and character of urban settlement patterns, with attention to recent theory and analytic techniques pertaining to urban location, communication, energy, political hegemony and access to resources.

6153 Seminar in the Geography of Latin America
(3-0) 3 hours credit. Prerequisite: GRG 5123 or GRG 5133.
Intensive analysis of selected problems in Latin American geography, including comparative settlement patterns; resource distribution and political structure; altitudinal factors in exchange networks; and micro-regional analyses. May be repeated for credit when the topics vary.

6951-3 Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor, the student's Graduate Advisor, and the Division Director and Dean of the College in which the course is offered.
Independent reading, research, discussion, and/or writing under the direction of a faculty member. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to a Master's degree.

6971-3 Special Problems
1 to 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Problems courses may be repeated for credit when the topics vary, but not more than 6 hours, regardless of discipline, will apply to a Master's degree.

COURSE DESCRIPTIONS
POLITICAL SCIENCE
(POL)

5033 Comparative Politics: Industrialized Societies
(3-0) 3 hours credit.
A comparative examination of political institutions and processes in selected industrial societies of Europe and North America. Special attention to the impact of social and economic change on the character of elites, bureaucracy, and public policy.

5103 American Political Parties
(3-0) 3 hours credit.
Selected aspects of the political party and pressure group systems in the United States. Subjects treated may include: historical development; theories of parties and interest groups; the electoral and governmental context.

5123 The Executive in American Government
(3-0) 3 hours credit.
A comparative examination of the ways in which different units of government carry out authoritative rules. Single, multiple, and bureaucratic executive institutions on all levels of American government will be examined using various modes of analysis.

5153 Colloquium in American Government and Politics
(3-0) 3 hours credit.
An examination of the major normative and descriptive theories of the American political system as it relates to economic, social, ethical, and other structures and
processes. Illustrative material will be drawn from selected areas of contemporary public policy. A colloquium format will be employed.

5303 Public Values and Public Management  
(3-0) 3 hours credit.  
An introduction to the historical background and contemporary practices, techniques, and theories of public management. Ideals and ideologies of public service; distinctive qualities of the public and for-profit sectors; responsiveness and accountability; interest groups and the economic environment of public management; ethics in the public service; future trends.

5343 Personnel Management in the Public Sector  
(3-0) 3 hours credit.  
The evolution of public personnel administration in the United States at the federal, state, and local levels. Problems of recruitment, in-service training, promotion, dismissal, employee production evaluation. Merit, civil service, career, and patronage systems. Unionization, collective bargaining, and strikes in the public sector.

5403 The Politics of Planning in American Government  
(3-0) 3 hours credit.  
An examination of the use of planning at the local, state, and federal levels as a tool in public policy formation. Topics include: the growth of state and local planning in response to federal programs, the use of planning by interest groups, the role of planning in executive-legislative relations.

5413 Seminar in Regulatory Politics  
(3-0) 3 hours credit.  
The role of business, labor, consumer, and other interest groups as actors in the regulatory process. The formation of public policy through the interaction of government and private interests will be examined in such areas as economic, environmental, and social welfare regulation.

5503 Constitutional Law and Judicial Decision-Making  
(3-0) 3 hours credit.  
An advanced course in constitutional law and interpretation. Special emphasis is placed on written judicial decisions, the political environment of judicial decision-making, and the impact of constitutional policy upon society.

5603 American Local Government  
(3-0) 3 hours credit.  
The conflict between the subordinate legal status of local governments and the ideal of local autonomy and control. Topics may include: administrative and financial responsibilities of municipal, county and special district governments; the role of localities in shaping national policy; the politics of cooperation and conflict between units of government.

5623 Intergovernmental Relations in the United States  
(3-0) 3 hours credit.  
The administrative and political effects of the division of authority among coordinate units of government. Federal-state, state-local, local-federal, state-state, local-local, and governmental-nongovernmental relations will all be examined.

5633 American State Governments  
(3-0) 3 hours credit.  
A comparative examination of administration, policy, and political behavior in the American states, as they reflect differences in institutions and political cultures. Special attention to Texas.

5903 Methods of Social Research  
(3-0) 3 hours credit.  
The logic and practice of social research, with special attention to applications in administration and public policy. Problems of research design, conceptualization, operationalization, and sampling; quantitative analytical techniques, including analysis of variance, multiple regression, and factor analysis; use of computer packages such as SPSS, BMD, and OSIRIS.
6951-3  Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor, the student's Graduate Advisor, and the Division Director and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to a Master's degree.

6971-3  Special Problems
1 to 3 hours credit. Prerequisite: Consent of instructor. An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Problems courses may be repeated for credit when the topics vary, but not more than 6 hours, regardless of discipline, will apply to a Master's degree.

COURSE DESCRIPTIONS

SOCIOLOGY (SOC)

5043  Seminar in Juvenile Delinquency Research (3-0) 3 hours credit.
A comparative and integrative review of contemporary research into social deviance among children and adolescents: youth subcultures, the impact of juvenile service institutions, gangs and movements, applications to corrections and educational institutions. Will be of particular interest to school administrators.

5103  Socio-Psychological Dimensions of Work (3-0) 3 hours credit.
Problems faced by members of the labor force in industrialized societies. The accompanying stresses that specialization and obsolescence place on the individual. The impact of work on labor force attitudes and performance. Labor force activity is examined against different cultural backgrounds. Programs to create a better work climate are examined.

5113  Seminar in Urban Social Stratification (3-0) 3 hours credit.
Sociological theories of social organization in urban contexts and recent research in such matters as inter-ethnic relations and subsystems of stratification.

5123  Seminar in Family Relations (3-0) 3 hours credit.
Examination of marriage and the family as social institutions. Interpersonal relationships within the family and relationships between the family and its environment. Specialized topics, such as adult education for marriage and workshop sessions for teachers of family courses in public schools, will be included.

5153  Seminar in the Cultural Pluralism of the Southwest (3-0) 3 hours credit.
Investigation of institutional, demographic, cultural and social-psychological aspects of the principal minority groups of the American Southwest. Examination of group identity, inter-group relations and social change.

5163  Women in Business and Professional Careers (3-0) 3 hours credit.
Study of female roles, achievement motivations, and career choices and opportunities. Historical background of female labor force participation and the attitudes and legislation which have affected this participation. Impact on both sexes of working for and with women.

5253  Principles of Demography (3-0) 3 hours credit.
Analysis of the social and economic impact of demographic trends, applying methods and theories in historical and contemporary contexts. World trends are
examined, and national and community-level trends in the United States are emphasized.

6043 Seminar in Advanced Social Psychology
(3-0) 3 hours credit.
Examination of theory and research on social behavior and attitudes. Various social-psychological approaches will be discussed: reinforcement, field theory, cognitive and psychoanalytic orientations, and combined approaches.

6951-3 Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor, the student's Graduate Advisor, and the Division Director and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to a Master's degree.

6971-3 Special Problems
1 to 3 hours credit. Prerequisite: Consent of instructor. An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Problems courses may be repeated for credit when the topics vary, but not more than 6 hours, regardless of discipline, will apply to a Master's degree.
COLLEGE OF MULTIDISCIPLINARY STUDIES
DIVISION OF BICULTURAL-BILINGUAL STUDIES

MASTER OF ARTS DEGREE IN BICULTURAL-BILINGUAL STUDIES

Concentrations in:
- Bicultural-Bilingual Teacher Education
- Bicultural Studies
- English as a Second Language

The Master of Arts Degree in Bicultural-Bilingual Studies is designed to meet several societal needs through advanced multidisciplinary study in the fields of language and culture.

Degree Requirements. All candidates for the Master of Arts Degree in Bicultural-Bilingual Studies will be required to select a concentration and successfully complete one of the following Options listed under each concentration as indicated below. Upon completion of course work the candidate will be required to pass a written and oral comprehensive examination.

Concentration in Bicultural-Bilingual Teacher Education. This concentration usually follows on the baccalaureate degree in Early Childhood, Elementary, and Secondary Education and provides intensive bicultural-bilingual teacher preparation. Preparation may also include such related areas as the teaching of English as a second language, social sciences, education, linguistics, literature and the arts.

Special Admission Requirements. In addition to satisfying the university-wide graduate admission requirements, students entering this program must demonstrate oral and written proficiency in English and another language by giving evidence acceptable to the Division of Bicultural-Bilingual Studies.

Concentration in Bicultural-Bilingual Teacher Education

Option I (a total of 30 semester hours including a thesis)

Eighteen (18) semester hours of course work normally required from the following areas:

Socio-Cultural (three required hours)
- BBL 5013 Bicultural Groups in the United States
- BBL 5073 Psychological Considerations in a Bicultural Environment
- LNG 5013 Sociolinguistics
- BBL 5123 Sociolinguistic Approaches to Bilingual Education
- BBL 5133 Biculturalism: Spanish-Speaking Groups in the U.S.

Bilingual Education Theory (three required hours)
- BBL 5113 Bilingual Education Programs: Prototypes and Their Adaptation to Community Needs
- BBL 5163 Philosophy of Bilingual Education

Linguistics and Second Language Studies (three required hours)
- ESL 5003 Linguistics for Second Language and Bilingual Specialists
- ESL 5013 Psycholinguistic Foundations of Second Language Teaching/Learning and Bilingual Performance
- ESL 5023 Language Analysis for Second-Language Specialists
- LNG 5013 Sociolinguistics
- LNG 5023 Psycholinguistics
Teaching Methodology: Content and Language (six required hours)

BBL 5033 Techniques of Teaching Content in a Bicultural-Bilingual Program
BBL 5063 Reading Techniques in a Bicultural-Bilingual Program
BBL 5103 Materials for Teaching Content in Bilingual Programs
BBL 5143 Media of Communication in Bilingual Classrooms

Research, Development and Evaluation (three required hours)

BBL 5053 Tests and Measurements in Bilingual and Second Language Studies
BBL 6053 Testing Members of Bilingual Societies
BBL 6063 Research Methodology in Bilingual and Second Language Studies

Six (6) semester hours of course work in English as a Second Language, as recommended by the Committee on Graduate Studies and approved by the Division Director and Dean.

Six (6) hours of Master's Thesis.

Option II (a total of 36 semester hours, non-thesis program)

Twenty-one (21) semester hours of course work normally required from the following areas:

Socio-Cultural (six required hours)

BBL 5013 Bicultural Groups in the United States
BBL 5023 Cultural Adaptation in Bilingual Societies
BBL 5073 Psychological Considerations in a Bicultural Environment
BBL 5123 Sociolinguistic Approaches to Bilingual Education
BBL 5133 Biculturalism: Spanish-Speaking Groups in the U.S.

Bilingual Education Theory (three required hours)

BBL 5113 Bilingual Education Programs: Prototypes and their Adaptation to Community Needs
BBL 5163 Philosophy of Bilingual Education

Linguistics and Second Language Studies (three required hours)

ESL 5003 Linguistics for Second Language and Bilingual Specialists
ESL 5013 Psycholinguistic Foundations of Second Language Teaching/Learning and Bilingual Performance
ESL 5023 Language Analysis for Second-Language Specialists
LNG 5013 Sociolinguistics
LNG 5023 Psycholinguistics

Teaching Methodology: Content and Language (six required hours)

BBL 5033 Techniques of Teaching Content in a Bicultural-Bilingual Program
BBL 5063 Reading Techniques in a Bicultural-Bilingual Program
BBL 5103 Materials for Teaching Content in Bilingual Programs
BBL 5143 Media of Communication in Bilingual Classrooms

Research, Development and Evaluation (three required hours)

BBL 5053 Tests and Measurements in Bilingual and Second Language Studies
BBL 6053 Testing Members of Bilingual Societies
BBL 6063 Research Methodology in Bilingual and Second Language Studies
Six (6) semester hours of course work in English as a Second Language, as recommended by the Committee on Graduate Studies, and approved by the Division Director and Dean.

An additional nine (9) semester hours of course work in Bicultural-Bilingual Studies, English as a Second Language, or from a related area,* as recommended by the Committee on Graduate Studies and approved by the Division Director and Dean.

**Concentration in Bicultural Studies.** This concentration normally requires a baccalaureate degree in the social sciences, literature or the arts. It provides a research-oriented multidisciplinary approach to the study of culture contact in the modern world with an emphasis on the United States. Courses drawn from this concentration may also provide cultural support work for persons with a primary interest in other academic areas such as the social sciences, health sciences, education and business.

**Special Admission Requirements.** In addition to satisfying the university-wide graduate requirements, students entering this program must demonstrate oral and written proficiency in English and another language by giving evidence acceptable to the Division of Bicultural-Bilingual Studies.

**Concentration in Bicultural Studies**

Option I (a total of 30 semester hours including a thesis)

Twenty-four (24) semester hours of course work normally required from the following areas:

**Socio-Cultural Studies** (six required hours)
- BBL 5013 Bicultural Groups in the United States
- BBL 5023 Cultural Adaptation in Bilingual Societies
- BBL 5073 Psychological Considerations in a Bicultural Environment
- BBL 5133 Biculturalism: Spanish-Speaking Groups in the United States
- ANT 5153 Seminar in Mexican-American Culture
- SOC 5153 Seminar in the Cultural Pluralism of the Southwest

**Historical Foundations** (six required hours)
- HIS 5173 History of United States Immigration
- HIS 5263 The Spanish Borderlands, 1521-1821
- HIS 5273 The Mexican Borderlands since 1821
- HIS 5403 History of Mexico: The Colonial Period
- HIS 5413 History of Mexico: The Republican Period
- HIS 5503 Seminar in the History of Mexico
- HIS 6353 Research Seminar in Southwest History

**Art History, Literature and Expressive Culture** (three to six required hours)
- SPN 5803 Mexican-American Literature
- SPN 6823 Contemporary Hispanic Cultures
- AHC 5813 Topics in the History of Art and Architecture

**Language** (three to six required hours)
- SPN 5833 Structure of Spanish
- SPN 5843 History of the Spanish Language
- SPN 5863 Spanish Phonetics and Phonology
- SPN 5873 Advanced Studies in Spanish Grammar
- SPN 5883 Spanish Syntax

*Support work may be selected from such related areas as Economics, Management, Art History and Criticism, Music, Spanish, Anthropology, History, Political Science, Sociology and Education.
SPN 5893 Hispanic Dialectology
ESL 5003 Linguistics for Second Language and Bilingual Specialists

**Theory and Method** (three required hours)

The student will select a course in theory and method from any discipline as preparation for the thesis. Examples of such courses are:

SOC 5113 Seminar in Urban Social Stratification
ANT 5013 History and Theory of Cultural Anthropology
ANT 5203 Language, Culture and Culture Change
POL 5033 Comparative Politics: Industrialized Societies
HIS 5013 Historiography
CL 5013 Introduction to Comparative Literature
SPN 6853 Theory of Literature
SPN 5373 Research Methods in Bibliography in Hispanic Studies
LNG 5013 Sociolinguistics

In addition to these twenty-four (24) required course hours, the student will write a thesis for six (6) hours credit.

Six (6) hours of Master's Thesis.

**Option II** (a total of 36 semester hours of course work)

Thirty-three (33) semester hours selected from the following areas. A maximum of twelve (12) and a minimum of six (6) hours are required from each area: See Option I for individual course listings in each area.

**Socio-Cultural Studies** (six to twelve required hours)

**Historical Foundations** (six to twelve required hours)

**Art History, Literature and Expressive Culture** (three to six required hours)

**Language** (six to twelve required hours)

Three (3) hours in theory and method in a relevant discipline.

In addition to regularly listed courses, all University Divisions offer Special Problems (6973) and Independent Studies courses which may be counted for program credit with the recommendation of the Committee on Graduate Studies and approved by the Division Director and Dean.

**Concentration in English as a Second Language**

The concentration in English as a Second Language is a program designed for those who are concerned with teaching English as a second or foreign language (TESL/TEFL).

The concentration in English as a Second Language is multidisciplinary, and the curriculum has been designed to present systematic instruction in applied linguistics and the methodology of teaching English as a second or foreign language. Preparation may also include such related areas as Bicultural-Bilingual Studies, Foreign Languages, Education, Social Sciences, Business, English, Literature, and the Arts.

**Special Admission Requirements:** In addition to satisfying the university-wide graduate admission requirements, students entering the Concentration of English as a Second Language must demonstrate proficiency in a foreign language. Applicants may satisfy this provision in any one of three ways:

1. By completion of the fourth semester of a foreign language.
2. By taking an examination and obtaining a satisfactory score.
3. By demonstrating ability as an educated speaker of a language other than English.
Option I (a total of 30 semester hours including thesis is required). Fifteen (15) hours of course work normally required from the following:

ESL 5003 Linguistics for Second Language and Bilingual Specialists
ESL 5013 Psycholinguistic Foundations of Second Language Teaching/ Learning and Bilingual Performance
ESL 5023 Language Analysis for Second Language Teachers
ESL 5033 Reading Acquisition and Techniques
ESL 5053 Second Language Teaching Methods

Nine (9) semester hours of course work in Bicultural-Bilingual Studies, as recommended by the Committee on Graduate Studies and approved by the Division Director and Dean.

Six (6) semester hours of Master's Thesis.

Option II (a total of 36 semester hours, non-thesis program)

Eighteen (18) semester hours of course work normally required from the following:

ESL 5003 Linguistics for Second Language and Bilingual Specialists
ESL 5013 Psycholinguistic Foundations of Second Language Teaching/ Learning and Bilingual Performance
ESL 5023 Language Analysis for Second-Language Specialists
ESL 5033 Reading Acquisition and Techniques
ESL 5053 Second Language Teaching Methods
ESL 6063 Controlled Composition and Writing in Second Language Programs
ESL 6073 Language Teaching Materials
LNG 5013 Sociolinguistics

Nine (9) semester hours of course work in Bicultural-Bilingual Studies as recommended by the Committee on Graduate Studies and approved by the Division Director and Dean.

An additional nine (9) semester hours of course work in English as a Second Language, Bicultural-Bilingual Studies, or from a related area as recommended by the Committee on Graduate Studies and approved by the Division Director and Dean.

COURSE DESCRIPTIONS

BICULTURAL-BILINGUAL STUDIES (BBL)

5013 Bicultural Groups in the United States
(3-0) 3 hours credit.
The multidisciplinary examination of socio-cultural maintenance and change in several ethnic groups in the United States and their relation to general issues in biculturalism. The reaction by U.S. societal sectors to cultural diversity.

5023 Cultural Adaptation in Bilingual Societies
(3-0) 3 hours credit.
A study of the interrelationship between cultural and linguistic conflicts in bilingual communication and the implications of these within the context of acculturation and bilingual assimilation for the socio-cultural institutions, intergroup relationships and American value system.

5033 Techniques of Teaching Content in Bilingual Programs
(3-0) 3 hours credit.
A study of methodologies, approaches and/or techniques applicable to the teaching of subject area content in bicultural-bilingual programs with emphasis on the distribution of the two languages in such programs and the balanced development of content-related lexica; offered in Spanish.
5053 Tests and Measurements in Bilingual and Second Language Studies
(3-0) 3 hours credit.
Psychometric terminology and basic computations; informal and formal test development procedures; testing construction according to instructional objectives; and measurement of language dominance, aptitude, proficiency and attitudes.

5063 Reading Techniques in a Bicultural-Bilingual Program
(3-0) 3 hours credit. Prerequisite: Some background in the acquisition of language is desirable.
Analysis of the basic principles, issues, and methodologies in the teaching of reading in the native language and its transferability to the second language; investigation of the current research and materials. Appropriate applications of these in a bicultural-bilingual program.

5073 Psychological Considerations in a Bicultural Environment
(3-0) 3 hours credit.
A study of psychological factors affecting the learning styles of children in bicultural environments: cognitive styles and development of ethnic values; relations among dominant and non-dominant ethnic groups; and strategies for effecting institutional change.

5093 Children's Literature in a Bicultural-Bilingual Program
(3-0) 3 hours credit.
A study of the available literature in Spanish for children for use in a bicultural-bilingual program.

5103 Materials for Teaching Content in Bilingual Programs
(3-0) 3 hours credit.
A study of materials applicable to the teaching of subject area content in bicultural-bilingual programs with emphasis on the adaptation of existing materials and the development of materials specifically designed for the concurrent and/or alternate use of two languages as media of instruction; offered only in Spanish.

5113 Bilingual Education Programs: Prototypes and Their Adaptation to Community Needs
(3-0) 3 hours credit.
An investigation of theoretical prototypes in bicultural-bilingual education; emphasis on program selection, its adaptation to community needs and its implementation.

5123 Sociolinguistic Approaches to Bilingual Education
(3-0) 3 hours credit.
A study of the demographic, ethnographic and socio-cultural elements of bicultural, multicultural communities and the roles of these elements in the adaptation and implementation of elementary and secondary school programs based upon the sociological reality of a culturally diverse community.

5133 Biculturality: Spanish-Speaking Groups in the U.S.
(3-0) 3 hours credit.
The study of culture contact between one or more Spanish-speaking groups and mainstream United States society according to different disciplinary perspectives.

5143 Media of Communication in Bilingual Classrooms
(3-0) 3 hours credit.
Emphasis on specialized teaching-related vocabularies and communicative skills needed to conduct a bilingual classroom; offered in Spanish.

5163 Philosophy of Bilingual Education
(3-0) 3 hours credit.
An historical overview of bilingual schooling in the U.S., past and present research, theories and philosophy of bicultural-bilingual education and how these factors relate to present educational systems.

6013 Theater Arts in the Bilingual School
(3-0) 3 hours credit.
An analysis of aspects of theater arts and their integration into the bilingual classroom, including representative plays and playwrights, techniques, terminology,
creative dramatics and participatory theater. A study of the role of puppets, masks, table theaters, etc., and their impact on children and learning in bicultural settings.

6023 The Bilingual Media Resources Centers
(3-0) 3 hours credit.
A comparative study of the role of the media resources centers and their functions as integral components of bicultural-bilingual programs, includes an analysis of terminology, problems, solutions and projections for centers in Bicultural-Bilingual Programs.

6043 Gifted Children and Bilingualism
(3-0) 3 hours credit.
Techniques of individualizing instruction for grouping, and teaching gifted minority children in bilingual educational programs; educating creativity in the classroom; research on the identification and education of gifted minority children.

6053 Testing Members of Bilingual Societies
(3-0) 3 hours credit. Prerequisite: BBL 5053.
Issues of testing and assessment with non-dominant ethnic populations, practicum in testing with selected instruments, class research projects of a psychological or linguistic nature into presumed characteristics of minority groups in the San Antonio area.

6063 Research Methodology in Bilingual and Second Language Studies
(3-0) 3 hours credit. Prerequisite: BBL 5053 or equivalent course in Test and Measurements or Elementary Statistics.
Research paradigms in the social and behavioral sciences, with emphasis on psychological and linguistic research methods; design of a research project; intermediate statistics.

6073 Research Methodology in Ethnographic Studies of Bilingual Societies
(3-0) 3 hours credit. Prerequisite: BBL 5123 or consent of instructor.
Techniques to survey and determine bilingual societies with emphasis on their norms of verbal and non-verbal interaction and their inherent value systems.

6153 Evaluation in Bilingual and Second Language Programs
(3-0) 3 hours credit. Prerequisite: BBL 5053.
Research and evaluation paradigms; formative and summative, process and product evaluations; special problems in evaluating language programs and bilingual populations; conducting needs assessments; evaluation and project management; variables of interest to bilingual and second language programs; design of a comprehensive evaluation study; application of standard computer programs.

6951-3 Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor, the student's Graduate Advisor, and the Division Director and Dean of the College in which the course is offered.
Independent reading, research, discussion, and/or writing under the direction of a faculty member. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

6971-3 Special Problems
1 to 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Problems courses may be repeated for credit when the topics vary, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

6983 Master's Thesis
3 hours credit. Prerequisites: Admission to candidacy and permission of the Graduate Advisor and thesis director.
Thesis research and preparation. May be repeated for credit, but not more than 6 hours will apply to the Master's degree. Credit will be awarded upon completion of the thesis. Enrollment is required each term in which the thesis is in progress.
ENGLISH AS A SECOND LANGUAGE

COURSE DESCRIPTIONS
ENGLISH AS A SECOND LANGUAGE (ESL)

5003 Linguistics for Second Language and Bilingual Specialists
(3-0) 3 hours credit.
Concepts in linguistics as they relate to issues in English as a Second Language and Bilingual Studies and Education, theoretical and methodological. This course focuses on an overview of the nature and structure of language with implications for the teaching of second languages in bilingual programs as well as in adult ESL programs.

5013 Psycholinguistic Foundations of Second Language Teaching/Learning and Bilingual Performance
(3-0) 3 hours credit.
The study of the principles and theories critical for the teaching and acquisition of second languages and the performance of bilingual skills in bilingual settings.

5023 Language Analysis for Second-Language Specialists
(3-0) 3 hours credit.
A course to train second-language specialists to identify and analyze the language learning elements in their lessons.

5033 Reading Acquisition and Techniques
(3-0) 3 hours credit.
A course on the relationship of reading acquisition to language, and the preparation and adaptation of appropriate reading texts at various levels. Critical evaluation of existing reading materials and progressive second language readers available in controlled vocabularies. Specifically designed for students of ESL.

5053 Second Language Teaching Methods
(3-0) 3 hours credit. Prerequisite: ESL 5013 or consent of instructor.
A critical study of various methodologies in second language teaching.

6013 Error Analysis
(3-0) 3 hours credit. Prerequisite: ESL 5003 or equivalent.
A study of errors in second-language learning with a view to establishing their causes and to preventing their recurrence in writing and in speech; the distinction between errors caused by language interferences and those caused by developmental factors.

6023 History of Second Language Teaching
(3-0) 3 hours credit.
A history of the principles of language teaching from antiquity to the present day, with special emphasis on the historical aims of language teaching; the relevancy of particular methods; and the theoretical justifications for past methods and techniques.

6033 Topics in Second Language Teaching
(3-0) 3 hours credit.
Suggested topics include: the direct method in language teaching; teaching foreign languages in the elementary school; the audio lingual methods, techniques and practices; language policy and implementation. May be repeated for credit when topics vary.

6043 Media in Second Language Teaching
(3-0) 3 hours credit.
A course designed to introduce the student to principles and methods of utilizing media in second language teaching: pictures, films, filmstrips, tapes, and language laboratories.

6053 Seminar in Second Language Test Construction
(3-0) 3 hours credit. Prerequisite: ESL 5003 or equivalent.
Investigation of various approaches, methods and techniques for testing in English as a Second Language Programs, with emphasis placed on tests of English language aptitude, proficiency, achievement, and dominance.
6063 Controlled Composition and Writing in Second Language Programs
(3-0) 3 hours credit. Prerequisite: ESL 5003 or equivalent.
The development, presentation, and evaluation of materials for the teaching of composition and writing to second language learners in English as a Second Language and Bilingual Programs.

6073 Language Teaching Materials
(3-0) 3 hours credit. Prerequisite: ESL 5003 or equivalent.
Preparation in the revision, adaptation, and utilization of language teaching materials. Designed for ESL, bilingual education, and adult basic education programs.

6951-3 Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor, the student's Graduate Advisor, and the Division Director and Dean of the College in which the course is offered.
Independent reading, research, discussion, and/or writing under the direction of a faculty member. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

6971-3 Special Problems
1 to 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Problems Courses may be repeated for credit when the topics vary, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

6983 Master's Thesis
3 hours credit. Prerequisites: Admission to candidacy and permission of the Graduate Advisor and thesis director.
Thesis research and preparation. May be repeated for credit, but not more than 6 hours will apply to the Master's degree. Credit will be awarded upon completion of the thesis. Enrollment is required each term in which the thesis is in progress.
DIVISION OF EDUCATION

MASTER OF ARTS DEGREE IN EDUCATION

Concentrations:

- Cultural Foundations of Education
- Curriculum and Instruction
- Early Childhood and Elementary Education
- Educational Management
- Educational Psychology/Counseling and Guidance
- Educational Psychology/Special Education
- Institutions of Higher Education

The Master of Arts Degree in Education offers seven areas of concentration so that students may choose a program of study most suitable to their needs and objectives. Degree plans are designed to prepare competent personnel for public and private elementary and secondary schools, junior colleges, and senior colleges and universities, as well as governmental agencies. At the heart of each degree program is the concept of flexibility which enables the degree program to be constructed to the particular needs of individual students.

The concentration in Cultural Foundations of Education is suitable for students who wish to study the philosophical and cultural context of education. Programs of study in this concentration examine the issues surrounding contemporary education from perspectives provided by history, sociology, anthropology, and philosophy. A program of studies is also available which critically examines modes of inquiry in the study of education.

The programs in Curriculum and Instruction are focused on both the theoretical and practical aspects of curriculum planning, development, implementation and evaluation in all subject fields and at all educational levels. Throughout the program the concepts of curricular innovation and teaching excellence are stressed in conjunction with expanded knowledge of subject matter fields and applied research.

The Early Childhood and Elementary Education concentration stresses human growth and development since, to a large extent, the adult characteristics of an individual are determined long before he or she reaches first grade. Included in the program are learning theory and familiarization with current research and research methods. This concentration is designed primarily for experienced classroom teachers at the early childhood and elementary levels.

The concentration in Educational Management is designed for those individuals who desire careers in public and private school systems, elementary schools, or secondary schools in administrative positions. This concentration helps individuals to understand instructional problems and educational philosophies as well as to develop expertise in management and the applications of management to educational settings.

The concentration in Educational Psychology/Counseling and Guidance is designed for those students interested in careers in counseling and guidance at the elementary, secondary or higher education levels. The concentration is designed to increase skills in collecting, organizing and interpreting information relative to students, and techniques for communicating this information to students, parents, and other appropriate publics. Certification requirements can be planned within the degree requirements.

The concentration in Educational Psychology/Special Education is designed for those students preparing to teach (or currently teaching) children identified as
mentally retarded, emotionally disturbed, or language/learning disabled. The student may elect any of the emphases above or combinations of them. The program is intended to provide both theoretical and conceptual understandings of students with these problems and clinical opportunities to develop and apply skills in working with children. Certification requirements can be planned within the degree requirements.

The Institutions of Higher Education concentration is designed for those individuals seeking careers in the areas of teaching or administration at the junior college, college, or university level. While many professionals will continue beyond the Master's level and seek the Ph.D. degree in this area, this program serves both the student for whom the M.A. degree is terminal and the student who is pursuing the M.A. degree as an intermediate program leading to the doctorate. Sufficient flexibility is incorporated in the program to allow students to obtain an understanding of the role, scope, and interactions of institutions of higher education, along with specialized areas in which professional competency is required. In addition to studying the particular characteristics of institutions of higher education and the multitude of critical issues involved, students complete considerable work outside the area of professional education which is especially applicable to a particular area of career interest. (For example, a student whose goal is to teach chemistry may do much of his course work in that area; a student whose objective is college administration may take courses in management; etc.)

Special Admission Requirements. Individuals without adequate preparation in Education may be required to complete preparatory courses as a condition of admission.

Degree Requirements. All degrees in Education have four required components:

A core of common experiences, a candidacy examination, a program focus with supporting work, and a comprehensive examination.

A) A core of experiences common to all concentrations

2. Philosophical/Historical Foundations of Education (EDU 5103 or EDU 5203 is required; however, the student is also expected to study in the alternate area independently and to pass that portion of the candidacy examination which deals with the combined field).
3. Psychology of Learning (EDP 5003 is required; however, this course may be substituted for by EDP 5013, EDP 5203, or HED 5203 with the consent of the student's Program Advisor. If a substitution is made the student will be responsible for independent study in the area of learning psychology sufficient to pass this portion of the candidacy examination).
4. Theory and Dynamics of Curriculum and Instruction (C&I 5003 is required; however, this course may be substituted for by another C&I course with the consent of the Graduate Advisor. If a substitution is made the student will be responsible for independent study in the area sufficient to pass this portion of the candidacy examination).

The courses chosen to meet these core requirements must be taken as part of the first 18 hours in the program of the student. When the core courses have been completed the student should (1) apply for candidacy, (2) take the candidacy examination, (3) have his/her committee appointed, and (4) file a degree plan. All of these steps are done in consultation with the assigned Program Advisor and/or the Graduate Advisor for Education.
B) A Candidacy Examination

To be admitted to candidacy, the student must have (1) maintained a B average on courses taken prior to application for candidacy, (2) obtained a passing score on the candidacy examination covering the four core areas, (3) filed a degree plan and (4) applied for candidacy by completing the appropriate form in the Division office.

C) A program focus with supporting work

1. The program focus approved by the Graduate Advisor must consist of at least nine (9) hours in one of the following concentrations (three of these 9 hours could also meet requirements above under "A"):  
   a. Cultural Foundations of Education  
   b. Curriculum and Instruction (Program options: Master Teacher, Curriculum Specialist, Instructional Media Specialist, Curriculum Evaluation Specialist, Reading Specialist, Instructional Supervisor)  
   c. Early Childhood and Elementary Education (Program options: Early Childhood Education, Elementary Education, Early Childhood and Elementary Education)  
   d. Educational Management  
   e. Educational Psychology/Counseling and Guidance  
   f. Educational Psychology/Special Education (Program options: Mentally Retarded, Emotionally Disturbed, Language/Learning Disabled)  
   g. Institutions of Higher Education (Program options: College and University Teaching, College and University Administration, Adult and Continuing Education)  

The student should take no more than 6 hours of course work in the concentration or elective areas prior to admission to candidacy for the Master's Degree. (See part A above.)

2. The program must be supported by electives of at least 3 to 18 hours. These allow students in consultation with advisors to tailor-make programs to student needs and career goals. They also allow students the opportunity to complete certificate programs. Students who choose Degree Option I (Thesis Option) will have a minimum of 3-6 hours of electives. It is recommended that students following Option I elect EDU 5053, Inferential Educational Statistics, as one course in their programs. Students who elect Degree Option II (Non-Thesis Option) will have in most programs 15-18 hours of electives. Students seeking certificates as well as Master's degrees may find Degree Option II more appropriate.

At the conclusion of the total degree program or, at the earliest, in the second to last semester of course work for the degree, the student is required to pass a comprehensive examination covering the concentration and support work. This examination is given by the student's supervisory committee; the nature of the examination is specified by this committee; and it is this committee that determines when the student has performed successfully on the examination. The student should arrange to take this examination by consulting with his/her Program Advisor or the Graduate Advisor of Record for the Division of Education.
COURSE DESCRIPTIONS
CURRICULUM AND INSTRUCTION
(C&I)

5003 Curriculum Theory and Dynamics
(3-0) 3 hours credit.
An examination of theoretical structures underlying curriculum considerations and the implications of these for processes of curricular planning, development and change.

5103 Diagnosis and Prescription: Individualizing Instruction
(3-0) 3 hours credit. Prerequisite: C&I 5003 or consent of instructor.
An in-depth study of the tasks and problems associated with individualized instruction. Students will examine the means available for measuring and diagnosing individual learning needs and styles and for selecting from alternative learning materials and environments those most appropriate to individual needs. This course and SED 5103 may not both be taken for credit.

5203 Patterns of instructional Interaction
(3-0) 3 hours credit. Prerequisite: C&I 5003 or consent of instructor.
Practice in the skills and dynamics of instructional behavior and a study of the predictability of student response behavior when strategies are selected according to predetermined criteria. This course and SED 5203 may not both be taken for credit.

5303 Instructional Media and Technology
(3-0) 3 hours credit. Prerequisite: C&I 5003 or consent of instructor.
Students will examine and develop criteria and schema for evaluating and selecting different instructional media formats, especially as the characteristics peculiar to different media forms apply to the instructional objectives and instructional environment planned.

5313 Instructional Materials Production I: Graphics
(3-0) 3 hours credit. Prerequisite: C&I 5003 or consent of instructor.
Preparation in the skills required for the production of a variety of materials for classroom use. The rationale for the use of visual media and the specifics of design and technical production procedures for the creation of effective instructional media formats are presented.

5343 Programming Instruction
(3-0) 3 hours credit. Prerequisite: C&I 5003 or consent of instructor.
A course intended to prepare students in the specific theory and skills of developing programmed instructional materials. S-R Theory as applied in the development of programmed instruction will be examined. Students will be expected to develop and developmentally test a unit of programmed instruction.

5403 Instructional Design and Development
(3-0) 3 hours credit. Prerequisite: C&I 5003 or consent of instructor.
A course dealing with the design of instruction. Special attention will be given to theory and method of design based on congruence between identified needs and approaches to curriculum development.

5453 Curriculum Evaluation
(3-0) 3 hours credit. Prerequisite: C&I 5003 or consent of instructor.
An examination of the several procedures used to evaluate curriculum materials and development activities. Formative and summative evaluation will be compared and contrasted and the consequences of model evaluative systems will be demonstrated.

5503 Early Childhood Curricula
(3-0) 3 hours credit. Prerequisite: EDU 5003 or consent of instructor.
A systematic analysis of early childhood curricula. A critical study of objectives, methods of organization, content, methods, and materials of learning used with young children.
5513  **Materials, Methods, and Techniques in Teaching Early Childhood Education**  
(3-0) 3 hours credit. Prerequisite: Consent of instructor.  
A study of the methodologies and techniques effective in teaching kindergarten and preschool children. Construction and use of materials for teaching at the level of student ability.

5523  **Advanced Curriculum Design for Early Childhood Education**  
(3-0) 3 hours credit. Prerequisite: C&I 5503 or consent of instructor.  
An analysis of the theoretical basis for curriculum building: developmental levels, domains of learning, taxonomies of objectives.

5533  **Curriculum for the Severely Handicapped Child**  
(3-0) 3 hours credit. Prerequisite: Consent of Instructor.  
Programs and techniques for helping the severely handicapped child achieve maximum independence will be studied. Techniques for developing self-help, motor, social, communication and vocational skills will be presented. Programming for continuing adult educational and sheltered work programs will be examined.

5603  **Elementary School Curricula**  
(3-0) 3 hours credit.  
A systematic analysis of elementary school curricula. A critical study of the objectives, methods of curricular organization, and content used with elementary school children.

5703  **Secondary School Curricula**  
(3-0) 3 hours credit. Prerequisite: EDU 5003 or consent of instructor.  
A systematic analysis of secondary school curricula. A critical study of objectives, methods of organization, content, methods and materials of learning used with youth.

5733  **Reading in Elementary School**  
(3-0) 3 hours credit.  
An analysis of fundamental concepts and principles of beginning reading. Studies of methodology in organizing and teaching an eclectic program of reading. Ability to assess and develop reading readiness and oral language skills. Ability to stimulate literary appreciation in young children. Critical evaluation of existing beginning reading programs. This course and ECE 5733 may not both be taken for credit.

5743  **Reading in Secondary School**  
(3-0) 3 hours credit.  
Principles and techniques for teaching higher level reading and comprehension skills in order to maximize proficiency in learning various academic subjects. Ability to stimulate literary appreciation in older children, to differentiate instruction to meet individual needs. Effective use of teaching aids and equipment. This course and SED 5743 may not both be taken for credit.

5753  **Diagnostic and Corrective Reading Techniques**  
(3-0) 3 hours credit. Prerequisite: C&I 5733 or an undergraduate reading methods course or consent of instructor.  
Diagnosis and correction of specific reading skill disabilities. Emphasis on techniques which can be implemented in the regular classroom. Work with children to carry out course objectives in both classroom and clinical environments.

5773  **Clinical Practicum in Reading**  
3 hours credit. Prerequisite or concurrent enrollment: C&I 5753 and consent of instructor.  
Multidisciplinary approach to diagnosis and correction of reading disabilities. Neurological, physical, perceptual, mental, emotional and linguistic aspects which may impede learning. Administration and interpretation of standardized testing instruments. Development of suitable approaches for remediation. Work with children to carry out course objectives in both classroom and clinical environments.

5793  **Seminar in Reading Administration and Supervision**  
(3-0) 3 hours credit. Prerequisites: C&I 5773, EDU 5003 or consent of instructor.  
Organization and functions of developmental, corrective, and remedial reading programs. Selection, initiation, implementation and evaluation of suitable reading ma-
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5803 Higher Education Curricula
(3-0) 3 hours credit. Prerequisite: EDU 5003 or consent of instructor.
A systematic analysis of higher education curricula. A critical study of objectives, methods of organization, content, methods and materials of learning used with college students.

6003 Supervision: Theoretical Basis
(3-0) 3 hours credit.
An application of learning theory, curriculum development theory, and educational planning theory to curricular development and instructional supervision. A course requiring students to work in small groups and individually in a laboratory setting.

6013 Supervision: Teaching-Learning Process
(3-0) 3 hours credit. Prerequisites: C&I 5003, C&I 6003 or consent of instructor.
The analysis and application of models of the teaching-learning process to instructional supervision. A course requiring students to work in small groups and individually in a laboratory setting.

6023 Supervision: Tools and Techniques
(3-0) 3 hours credit. Prerequisites: C&I 5003, C&I 6003 or consent of instructor.
The study and application of content, interaction and climate analysis techniques, and the development of communication and interpersonal skills needed for working with teachers. A course requiring students to work in small groups and individually in a laboratory setting.

6103 Occupational Planning in Mental Retardation
(3-0) 3 hours credit. Prerequisite: EDP 5413 or consent of instructor.
Curriculum for secondary school age mentally retarded children.

6153 Occupational Information and Resources
(3-0) 3 hours credit. Prerequisite: EDP 5203 or consent of instructor.
A study of occupations, requirements for entry, and means of satisfying personality needs.

6203 Methods for Teaching Children with Language/Learning Disabilities
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
The theoretical and practical aspects of prescriptive instructional materials and techniques.

6303 Advanced Methods in Subject-Matter Fields
(3-0) 3 hours credit. Prerequisite: C&I 5003 or consent of instructor.
Course sections are designed to aid students in achieving skill in instructional methodology that is specifically related to and derived from the characteristics of the discipline taught.
1. Science
2. Mathematics
3. Social Studies
4. Language Arts
5. Foreign Languages
May be repeated for credit when disciplines vary.

6951-3 Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor, the student's Graduate Advisor, and the Division Director and Dean of the College in which the course is offered.
Independent reading, research, discussion, and/or writing under the direction of a faculty member. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

6971-3 Special Problems
1 to 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available
as part of the regular course offerings. Special Problems courses may be repeated for credit when the topics vary, but not more than 6 hours, regardless of discipline, will apply to the Master’s degree.

COURSE DESCRIPTIONS

EARLY CHILDHOOD AND ELEMENTARY EDUCATION (ECE)

5123 Seminar in Development in Early Childhood and Infancy
(3-0) 3 hours credit. Prerequisite: EDP 5013 or consent of instructor. Studies of the results of stimulating sensory equipment in the early years and investigation of insufficient psychological and physiological nourishment. Deviations from steady differentiation of emotional responses during early childhood, achievement motivation and studies of frustration and tolerance. Includes suggested practices that may enable future generations to avoid developmental disruptions and to alleviate existing developmental handicaps.

5143 Language Development During Early Childhood
(3-0) 3 hours credit. Patterns of acquisition of language skills among the young of diverse ethnic groups will be analyzed in order to identify experiences that promote language development in early childhood.

5243 Language and Communication in Elementary School Children
(3-0) 3 hours credit. A study of language and communication in children based on psychological research on symbolic logic concerning attention and discrimination, memory, and thinking. Topics include models of language use, semantics, language and personality, communication systems, bilingualism, bidialectalism, and classroom interaction.

5453 Classroom Behavior Problems in Children
(3-0) 3 hours credit. Prerequisite: EDU 5003 or consent of instructor. A survey of common behavioral problems of children likely to be encountered by teachers in elementary and early childhood classrooms. Emphasis on understanding factors which influence the development of such problems in school aged children, and curricular considerations affecting or affected by classroom behavior.

5473 Specialized Instruction in the Elementary School
(3-0) 3 hours credit. Prerequisite: EDU 5003 or consent of instructor. In-depth investigations of experimental programs in special areas of knowledge such as Mathematics, Science, Social Studies, will be made. Students will complete a field study.

5493 Sociological Implications of the Elementary School
(3-0) 3 hours credit. Historical examination of the relationship of the elementary school to the society it serves, including a study of the relationship of some aspects of societal changes, e.g., groups involved, roles of individuals, to changes within the elementary school, e.g. general goals, curricular emphases.

5733 Reading in Elementary School
(3-0) 3 hours credit. An analysis of fundamental concepts and principles of elementary school reading. Studies of methodology in organizing and teaching an eclectic program of reading. Ability to assess and develop reading readiness and oral language skills. Ability to stimulate literary appreciation in young children. Critical evaluation of existing beginning reading programs. This course and C&I 5733 may not both be taken for credit.

6103 Seminar in Early Childhood Education
(3-0) 3 hours credit. Prerequisite: Consent of instructor. Analysis of the historical and contemporary issues in Early Childhood Education
with emphasis on current research and the role of the family in the education of children.

6123 Administration of Early Childhood Programs
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
A study of the organization, structure, and operation of Kindergarten, Day-care, and Nursery programs, both public and private. Implications for elementary education.

6143 Seminar on Day Care for Children Under Three: Social and Developmental Aspects
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
Child caretaking in different social structures; day care centers from a cross-cultural perspective; biological and social aspects of traditional families and alternative family arrangements; physical and mental characteristics of children under three; learning capacity of children under three; deprivation syndromes.

6163 Biological Basis of Child Development
(3-0) 3 hours credit. Prerequisites: One course in general biology or BIO 1033 and EDP 5013 or ECE 5123.
Theoretical aspects of behavioral biology; behavioral genetics; comparative physiology of behavior; behavioral embryology; physiological and environmental factors affecting development of behavior; early development of learning and cognitive functions.

6183 Seminar in Early Childhood Education in Cross-Cultural Perspective
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An examination of contrasting strategies of socialization employed by societies around the world, past and present; limits of and alternatives to formal early childhood education in the current Western sense. Readings are drawn from both ethnographic and theoretical sources in anthropology, psychology and education.

6453 Research in Elementary Education
(3-0) 3 hours credit.
Study of research and problems of current significance in the development of educational programs for elementary school children.

6473 Seminar in Elementary Education
(3-0) 3 hours credit.
Examination of the discipline of a subject-field selected, e.g. science, social studies, music, including an intensive study of research findings, publications of related professional organizations and advanced experimentations related to teaching/learning situations.

6951-3 Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor, the student's Graduate Advisor, and the Division Director and Dean of the College in which the course is offered.
Independent reading, research, discussion, and/or writing under the direction of a faculty member. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

6963 Internship in Early Childhood or Elementary Education
3 hours credit. Prerequisite: Consent of instructor.
Seminar presentations and discussion of methods, techniques and procedures coupled with directed experiences 1) in the early childhood education setting, 2) in the elementary school, and 3) in the area of reading. May be repeated for credit to a maximum of 9 hours.

6971-3 Special Problems
1 to 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Problems courses may be repeated for credit when the topics vary, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.
5003 Research Methods in Education
(3-0) 3 hours credit. Prerequisite: Admission to graduate program or consent of instructor.
Basic concepts of research design, strategies of experimental, historical, and descriptive research, and basic statistical procedures are introduced. Participants use these concepts to read, interpret, and evaluate educational research and to plan and conduct such research. A field study will be required.

5053 Inferential Educational Statistics
(3-0) 3 hours credit. Prerequisites: EDU 5003 and MAT 5073 or consent of instructor.
The concept of inferential statistics in education as a means of drawing conclusions and interpreting results is a central theme. A variety of statistical techniques often used in educational research are introduced with the intent of having students be able to elect the appropriate statistical procedure and interpret the results.

5103 Contemporary Educational Philosophy
(3-0) 3 hours credit.
A critical examination of selected contemporary philosophies and an evaluation of their assimilation into educational thought and practices.

5203 Evolution of Educational Thought
(3-0) 3 hours credit.
An analysis of the educational writings and teachings of Plato, Aristotle, the Scholasticists, Comenius, Dewey, Froebel, Herbart, Kant, Locke, Pestalozzi, Rousseau, and Spencer and the impact on contemporary educational theory and practice.

5403 Education, Cultural Differences and Acculturation
(3-0) 3 hours credit.
Educational changes and adjustments resulting from the interaction of a variety of different cultural backgrounds in the modern school. Specialized techniques, processes and programs designed to meet unique learning needs of the non-English speaking child.

5503 Seminar in Social Foundations of Education
(3-0) 3 hours credit.
Examination and analysis of social structures, values and culture as these interact with educational systems. Special emphasis will be placed on the urban environment and its particular relationships with education.

5603 Contemporary Issues in Education
(3-0) 3 hours credit. Prerequisite: EDU 5003 or consent of instructor.
Identification and analysis of the major contemporary educational issues, evaluation of attempted historical resolutions, and review of information relevant to policy decisions.

6951-3 Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor, the student's Graduate Advisor, and the Division Director and Dean of the College in which the course is offered.
Independent reading, research, discussion, and/or writing under the direction of a faculty member. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

6971-3 Special Problems
1 to 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Problems courses may be repeated for credit when the topics vary, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.
6983 Master's Thesis
3 hours credit. Prerequisites: Admission to candidacy in the Master's Program and permission of the Graduate Advisor and thesis director. Thesis research and preparation. May be repeated for credit, but not more than 6 hours will apply to the Master's degree. Credit will be awarded upon completion of the thesis. Enrollment is required each term in which the thesis is in progress.

COURSE DESCRIPTIONS
EDUCATIONAL MANAGEMENT (EDM)

5003 General School Administration
(3-0) 3 hours credit. Prerequisite: One year of teaching experience. The roles, tasks and problems of district and building level administrators; interrelationships of modern school systems and their relationship to local, state and federal government.

5103 School Finance and Taxation
(3-0) 3 hours credit. Current problems, issues, and practices in local, state and federal financial support for primary and secondary schools and the relation of school finance problems to broader socio-economic issues.

5203 School and Community Relations
(3-0) 3 hours credit. Parent participation in the school and strategies for informing the community about school activities and promoting school community interactions are analyzed. Studies will be made on interrelationships among the home, schools, and community.

5303 Human Relations in Educational Administrations
(3-0) 3 hours credit. Analysis and identification of group processes and individual behavior which tend to enhance democratic interaction in the achievement of educational goals.

5403 The Principalship
(3-0) 3 hours credit. Prerequisite: One year teaching experience. Analysis of the principal's role as he or she interacts with his or her various referent groups. Special emphasis on behavior. Applicable to elementary and secondary administration.

5503 Administration and Function of Special Programs
(3-0) 3 hours credit. A study of the role of the administrator in initiating, developing, supervising and supporting programs in Guidance, Vocational and Technical Education, Career Education, Special Education, Compensatory Education and Reading.

5603 Field Based Individual Research
3 hours credit. Prerequisite: Consent of instructor. Individualized projects in educational administration based on a problem area identified through contact in the field. Students are to develop the ability to locate, analyze, synthesize, and propose applications of research and literature to an identified problem area.

5703 Legal Foundations of Education
(3-0) 3 hours credit. Analysis of current legal basis and practices in the governance of education and the implications of significant court decisions pertaining to school operations.

5803 The Middle School
(3-0) 3 hours credit. Prerequisite: Consent of instructor. Origin, objectives, programs, and administration of the middle school with consideration of the junior high school heritage. Emphasis on organization of programs based on physical and psychological development of the clientele.
6103 Personnel Administration
(3-0) 3 hours credit. Prerequisite: MGT 5003 or consent of instructor.
Problems in the personnel administration of public and private schools. Policies affecting personnel, rights and responsibilities of students and teachers, insurance, salary schedule, retirement, sick leave, collective negotiations, and auxiliary enterprises.

6203 Educational Facilities — Resources and Planning
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An analysis of the building and other physical plant needs of the local public school district, including planning, financing, construction, and utilization.

6303 Education Systems Analysis
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
A study of systems analysis techniques applicable to education including PERT, P.P.B.S., M.B.O., and other management systems, including management information systems.

6403 Organizational and Administrative Theory in Education
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
A study of current theories, concepts and principles of leadership and their in-depth application to educational roles. Emphasis is placed on the responsibility of the educational administrator for effective leadership in the school and community and the evaluation of staff competence and role performance.

6503 Futurology and Educational Planning
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An examination of knowledge, values, attitudes and feelings regarding future cognition along with psychological and ethical issues regarding futurology and long range planning. Identification of techniques of analysis and methodological approaches for forecasting related to the educational subsystem. Development of concepts of desired futures and strategies for changing the subsystem to meet the demands.

6951-3 Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor, the student's Graduate Advisor, and the Division Director and Dean of the College in which the course is offered.
Independent reading, research, discussion, and/or writing under the direction of a faculty member. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

6963 Internship
3 hours credit. Prerequisite: Consent of instructor.
1. EDUCATIONAL MIDDLE MANAGEMENT
Supervised on-the-job experience with related reading and study. The intern will work with building level administrators or district program specialists in applying management fundamentals to an ongoing school program. Students are exposed to decision-making processes such as program development, plant utility, financial and personnel management.
2. DISTRICT-WIDE EDUCATIONAL MANAGEMENT
Supervised on-the-job experience with related reading and study. The intern will work with district level administrators in applying management principles to an ongoing phase of a district-wide program. Students are involved with planning, implementing and evaluating various aspects of a district's educational program. May be repeated for credit when topics vary.

6971-3 Special Problems
1 to 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Problems courses may be repeated for credit when the topics vary, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.
COURSE DESCRIPTIONS
EDUCATIONAL PSYCHOLOGY
(EDP)

5003 Psychological Basis for Learning
(3-0) 3 hours credit.
A concentrated analysis of mental processes important to learning and an evaluation of the major concepts, theories, and results of research in learning as applied to education.

5013 Learning Theories Related to Child Development
(3-0) 3 hours credit.
A study of developmental and learning theories related to the growth of the child from infancy through childhood.

5023 Learning Theories Related to Adolescent Development
(3-0) 3 hours credit.
A study of developmental and learning theories related to the growth during the adolescent and adult period.

5023 The Guidance Function in Education
(3-0) 3 hours credit. Prerequisite: Graduate standing.
The role of guidance services in education. Focus will be on: teacher, counselor, administrator roles, current and emerging practices.

5213 Diagnosis and Counseling
(3-0) 3 hours credit. Prerequisites: EDU 5003 and EDP 5203.
Counseling theory and techniques for identification of student problems. Focus on: tools and techniques for identification; counseling for personal adjustment.

5223 Psychometric Procedures
(3-0) 3 hours credit. Prerequisites: EDU 5003 and EDP 5203.
A study of instruments used to measure personality variables. Focus on administering and interpreting instruments measuring intellectual abilities.

5233 Group Processes: The Individual in the Group
(3-0) 3 hours credit. Prerequisites: EDU 5003 and EDP 5203 or consent of instructor.
A study of group structure and theory. Focus on group influences on behavior.

5243 Marriage and Family Counseling
(3-0) 3 hours credit. Prerequisites: EDP 5203, EDP 5213 or consent of instructor.
The study of the nature and sources of conflict and tensions within the family; the study of techniques of conflict reduction with an emphasis on the role of the counselor in this process.

5303 Principles and Techniques of Evaluation
(3-0) 3 hours credit.
Study of the role of evaluation, development of instruments for assessing the products of learning and the techniques for interpreting and communicating evaluation results.

5393 Practicum in Counseling
3 hours credit. Prerequisites: EDP 5213, EDP 5233 and consent of instructor.
Supervised experience identifying and diagnosing student problems in an educational setting.

5403 The Exceptional Child in School
(3-0) 3 hours credit.
an introduction to and survey of the field of special education. Characteristics, etiology, definition and prevalence of exceptional children; description of services available; field experiences.

5413 The Mentally Retarded Child
(3-0) 3 hours credit. Prerequisite: EDP 5403.
A study of the retarded child from historical, sociological, psychological, and educational perspectives. The implications of a variety of theories for the education of
the retarded child will be examined. Current trends in service delivery will be studied.

5423 **Behavioral Management and the Emotionally Disturbed Child**  
(3-0) 3 hours credit. Prerequisites: EDP 5403 or consent of instructor.  
A study of the principles and theory of behavior modification with application to the emotionally disturbed child; field experiences.

5433 **Developmental Assessment of Emotionally Disturbed Children**  
(2-2) 3 hours credit. Prerequisite: EDP 5403 or consent of instructor.  
The application of standardized and informal classroom evaluation techniques to behavior and learning problems encountered by emotionally disturbed children; field experiences.

5443 **Counseling with Parents of Emotionally Disturbed Children**  
(3-0) 3 hours credit. Prerequisite: EDP 5403 or consent of instructor.  
A study of theories and procedures for working with parents of behaviorally disordered children. Includes parent conferencing and parent training; field experiences.

5453 **Characteristics of the Child with Learning Disabilities**  
(3-0) 3 hours credit.  
A study of the incidence, prevalence, etiology and characteristics of the child with learning disabilities. The relationship between L/LD, child development, school environment and academic performance will be studied. Special emphasis will be given to a critical analysis of formal and informal assessment techniques.

5463 **Language Learning and the L/LD Child**  
(3-0) 3 hours credit. Prerequisite: EDP 5403 or consent of instructor.  
A study of the relationship between normal and abnormal language development and school performance. Students will be taught to administer and interpret a variety of measures of language proficiency, and to plan and develop remedial curriculum materials.

5473 **Curriculum for the Mentally Retarded Child**  
(3-0) 3 hours credit. Prerequisite: EDP 5403 or consent of instructor.  
Curriculum plans designed to facilitate development of mentally retarded children.

5483 **Practicum in Mental Retardation**  
3 hours credit. Prerequisites: EDP 5403, EDP 5473, and consent of instructor.  
The application of theoretical principles to school and community settings designed for mentally retarded individuals. Students will develop and implement diagnostic and curricular materials in a field setting.

5543 **The Behaviorally Disordered Child**  
(3-0) 3 hours credit.  
This course is designed to provide special educators and students in related fields with an understanding of various theories and practices in the field of behavior disorders. Research relative to the education of the behaviorally disordered child as well as its practical implications for the classroom teacher will be considered.

5553 **Assessment and Evaluation of the Severely Handicapped Child**  
(3-0) 3 hours credit. Prerequisite: Consent of instructor.  
This course is designed to provide students with the ability to use a variety of instruments to evaluate the behavior and performance of severely handicapped individuals. Adaptive and development scales of assessment as well as observational systems will be emphasized. Assessment techniques in the areas of self-help, motor, social, communication and vocational skills will be covered.

5583 **Practicum in Language/Learning Disabilities**  
3 hours credit. Prerequisites: C&I 5203 and consent of instructor.  
The application of theoretical principles to school settings designed for the L/LD child. The student will be required to develop and implement diagnostic-prescriptive teaching programs in field settings.

5593 **Practicum in Special Education: Emotionally Disturbed**  
3 hours credit. Prerequisite: Consent of instructor.  
The application of theoretical principles to field settings. Student will work in edu-
cational settings which will include planning, implementing and evaluating appropriate experiences with emotionally disturbed students.

6003 Educational Social Systems
(3-0) 3 hours credit. Prerequisites: EDP 5003 and EDP 5233. A study of social systems theory applied to educational settings. Students will integrate observational research methodology, social systems theory, and social learning theory to the analysis of schools, classrooms, and other educational groups.

6951-3 Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor, the student's Graduate Advisor, and the Division Director and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

6963,6 Internship
3 or 6 hours credit. Prerequisite: Consent of instructor. A supervised field-based experience in some aspect of educational psychology with related reading and study. May be repeated for credit to a maximum of 6 hours.

6971-3 Special Problems
1 to 3 hours credit. Prerequisite: Consent of instructor. An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Problems courses may be repeated for credit when the topics vary, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

COURSE DESCRIPTIONS
HIGHER EDUCATION (HED)

5003 The Development of Higher Education in the U.S.
(3-0) 3 hours credit. A study of the transition from patterns of European institutions of higher learning to the development of uniquely American institutions. Relates the development of resources, human and physical, to the changing role of higher education in American society.

5103 Contemporary Thought in Higher Education
(3-0) 3 hours credit. A study of current thought as it relates to the management of institutions of higher education.

5203 The American College Student
(3-0) 3 hours credit. The college student's role in contemporary society; characteristics, basic values, peer group influence, campus culture, needs and pressures.

5303 Seminar in Governance of Higher Education
(3-0) 3 hours credit. Analysis of current practices and issues in the governance of higher education which affect students, faculty, administration, scope and role of colleges and universities.

5403 Resource Allocations in Higher Education
(3-0) 3 hours credit. Concepts and practices in financing, planning, program and institutional budgeting in higher education.
5603 Development and Organization of Adult and Continuing Education
(3-0) 3 hours credit.
Exploration of forms of continuing and adult education conducted by business and industry, the armed forces, educational institutions and private foundations, including federal and state programs of support; external and alternative degree programs; the open university concept and self-study programs; general treatment of historical development.

5613 Methods in Adult and Continuing Education
(3-0) 3 hours credit.
An examination of delivery systems adapted to adult learning requirements to include television, radio, audio-tutorial and computerized instruction. Individualized program instruction versus the traditional classroom, the format for adult learning, testing for comprehension and retention.

5623 Adult and Continuing Education Management Systems
(3-0) 3 hours credit.

5633 Practicum in Adult and Continuing Education
3 hours credit. Prerequisite: Consent of instructor.
A supervised experience concerned with coordinating adult and continuing education programs. Activities include developing programs, finding community sponsors and clients, budgeting and staffing programs, implementing and evaluating programs. Students meet with other students and a senior staff member to discuss their experiences, problems, and solutions and strategies.

6003 The Community College
(3-0) 3 hours credit.
The historical and philosophical foundations for the community junior college movement in the United States will be analyzed and utilized as a basis for understanding contemporary trends and problems of community junior colleges.

6103 Effective Teaching in Higher Education
(3-0) 3 hours credit.
A seminar that focuses on the image of the college professor and on a review of the current research on the teaching/learning process at the college or university level. Includes a review of educational psychology of the late adolescent and adult, an investigation of new and effective instructional methods, and an appraisal of evaluation procedures.

6951-3 Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor, the student's Graduate Advisor, and the Division Director and Dean of the College in which the course is offered.
Independent reading, research, discussion, and/or writing under the direction of a faculty member. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours, regardless of discipline, may be counted toward the Master's degree.

6963 Internship in Higher Education
3 hours credit. Prerequisite: Consent of instructor.
A supervised field-based experience in some aspect of higher education with related reading and study.

6971-3 Special Problems
1 to 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Problems courses may be repeated for credit when the topics vary, but not more than 6 hours, regardless of discipline, may be counted toward the Master's degree.
COURSE DESCRIPTIONS
SECONDARY EDUCATION (SED)

5103 Diagnosis and Prescription: Individualizing Instruction, Secondary
(3-0) 3 hours credit.
An in-depth study of the tasks and problems associated with individualized instruction in secondary schools. Students will examine the means available for measuring and diagnosing individual learning needs and styles and for selecting from alternative learning materials and environments those most appropriate to individual needs. This course and C&I 5103 may not both be taken for credit.

5203 Patterns of Instructional Interaction, Secondary
(3-0) 3 hours credit.
Practice in the skills and dynamics of instructional behavior and a study of the predictability of student response behavior when strategies for secondary schools are selected according to predetermined criteria. This course and C&I 5203 may not both be taken for credit.

5743 Reading in Secondary School
(3-0) 3 hours credit.
Principles and techniques for teaching secondary school reading and comprehension skills in order to maximize proficiency in learning various academic subjects. Ability to stimulate literary appreciation in older children, to differentiate instruction to meet individual needs. Effective use of teaching aids and equipment. This course and C&I 5743 may not both be taken for credit.

6951-3 Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor, the student's Graduate Advisor, and the Division Director and Dean of the College in which the course is offered.
Independent reading, research, discussion, and/or writing under the direction of a faculty member. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours, regardless of discipline, may be counted toward the Master's degree.

6971-3 Special Problems
1 to 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Problems courses may be repeated for credit when the topics vary, but not more than 6 hours, regardless of discipline, may be counted toward the Master's degree.
MASTER OF ARTS DEGREE IN ENVIRONMENTAL MANAGEMENT

Concentration in:
Management of Human Resources

The Master of Arts Degree in Environmental Management with a concentration in Management of Human Resources is available to students whose undergradu­ate degrees are in a variety of areas such as business, communications, economics, engineering and the social sciences. This program is for those individuals who want to prepare for careers involving the analysis, development and management of human resources in both the public and private sector.

Special Admission Requirements. Each application for admission to the Master of Arts Degree program is evaluated by the Admissions Committee. Unconditional admission is granted a student who meets the university-wide graduate admission requirements and whose background is judged satisfactory. A student who fails to meet the university-wide requirements or whose background is judged inadequate for unconditional admission may be admitted on a conditional basis. The following courses, or others deemed necessary by the Admissions Committee, may be required as admission conditions for a student whose background in economic theory and statistical methods is weak:

- ECO 5003 Economic Theory and Policy
- MAT 5073 Methods of Statistics I

These courses will be in addition to degree requirements.

Degree Requirements. All candidates for the Master of Arts Degree in Environmental Management are required to complete successfully a 36 semester hour program.

Required Courses:
- ECO 5043 Public Managerial Economics
- ENV 5533 Environment and Systems
- ENV 6603 Investigative Methods
- FIN 5043 Budgeting and Finance in the Public Sector
- ENV 5453 Planning and Management of Manpower Programs
- ENV 6643 Concepts of Public and Environmental Management

Elective Courses:
Twelve (12) semester hours of course work from a related field in Environmental Management or from another support area, as recommended by the Committee on Graduate Studies and approved by the Division Director and Dean.

Required Practicum (6 hours from the following):
- ENV 6943 Workshop in Public and Environmental Management (3 or 6 hours)
- ENV 6963 Internship (3 or 6 hours)
- ENV 6983 Master’s Thesis (6 hours)

Workshop may be repeated for credit only when subject matter changes. Internship normally consists of 6 hours. Thesis must consist of 6 hours.

Special Problems and/or Independent Study may be substituted for all or part of the Practicum requirements with the recommendation of the Committee on Graduate Studies and the approval of the Division Director and Dean.
Concentration in:
Urban Studies
The Master of Arts Degree in Environmental Management with a concentration in Urban Studies is available to students whose undergraduate degrees are in such areas as architecture, economics, engineering, environmental design, and social sciences. The program is for those individuals who want to prepare for careers in urban planning and urban design at the local, state and federal levels and also for practicing planners who wish to improve their professional qualifications.

Required Courses:
- ENV 5503 Urban Planning I
- ENV 5513 Urban Research
- ENV 5523 Comparative Urban Development
- ENV 5553 Urban Planning II
- ENV 6513 Communication Skills for Public Management

Elective Courses:
Six (6) semester hours of course work from a related field in Environmental Management or from another support area, as recommended by the Committee on Graduate Studies and approved by the Division Director and Dean.

Required Practicum (6 hours from the following):
- ENV 6943 Workshop in Public and Environmental Management (3 or 6 hours)
- ENV 6963 Internship (3 or 6 hours)
- ENV 6983 Master’s Thesis (6 hours)

Workshop may be repeated for credit only when subject matter changes. Internship normally consists of 6 hours. Thesis must consist of 6 hours.

Special Problems and/or Independent Study may be substituted for all or part of the Practicum requirements with the recommendation of the Committee on Graduate Studies and approval by the Division Director and Dean.

MASTER OF SCIENCE DEGREE IN ENVIRONMENTAL MANAGEMENT
Concentration in:
Management of Natural Resources
The Master of Science Degree in Environmental Management with a concentration in Management of Natural Resources is designed for the individuals who have a quantitative orientation. Typically their undergraduate degrees would be in such areas as physical or biological sciences, engineering, economics or mathematics. This field of study is intended for those individuals who want to prepare for careers involving the allocation, regulation, utilization and protection of natural resources and environmental quality.

Special Admission Requirements. Each application for admission to the Master of Science Degree program is evaluated by the Admissions Committee. Unconditional admission is granted a student who meets the university-wide graduate admission requirements and whose background is judged satisfactory. A student who fails to meet the university-wide requirements or whose background is judged inadequate for unconditional admission may be admitted on a conditional basis. The following courses, or others deemed necessary by the Admissions
Committee, may be required as admission conditions for a student whose background in economic theory, statistical methods, and earth science is weak:

- ECO 5003 Economic Theory and Policy
- MAT 5073 Methods of Statistics I
- EPS 5403 Earth Science

These courses will be in addition to degree requirements.

Degree Requirements. All candidates for the Master of Science Degree in Environmental Management are required to complete successfully a 48 semester hour program.

Required Courses:

- ECO 5043 Public Managerial Economics
- ENV 5203 Human and Natural Resources
- ENV 5533 Environment and Systems
- ENV 6603 Investigative Methods

A minimum of 9 additional semester hours credit must be taken from the following courses:

- ENV 5723 Applied Geosciences
- ENV 6613 Applied Ecology
- ENV 6913 Decision Analysis for Public and Environmental Management
- ENV 6923 Decision Analysis for Public and Environmental Management
- ENV 6963 Decision Analysis for Public and Environmental Management
- CHE 5303 Environmental Chemistry
- EPS 5303 Environmental Physics

Elective Courses:

Twenty-one (21) semester hours of course work from a related field in Environmental Management or from another support area, as recommended by the Committee on Graduate Studies and approved by the Division Director and Dean.

Required Practicum (6 hours from the following):

- ENV 6943 Workshop in Public and Environmental Management (3 or 6 hours)
- ENV 6963 Internship (3 or 6 hours)
- ENV 6983 Master's Thesis (6 hours)

Workshop may be repeated for credit only when subject matter changes. Internship normally consists of 6 hours. Thesis must consist of 6 hours. Special Problems and/or Independent Study may be substituted for all or part of the practicum requirements with the recommendation of the Committee on Graduate Studies and the approval of the Division Director and Dean.

COURSE DESCRIPTIONS

ENVIRONMENTAL MANAGEMENT (ENV)

5203 Human and Natural Resources (3-0) 3 hours credit.

A study of population as a resource and the role of humans in the environment. Natural resources are viewed from the contribution they make to the growth process of society. The changing role of human and natural resources as they relate to technology over time is analyzed.
5323 **Public Policy Formulation**  
(3-0) 3 hours credit.  
Processes through which public demands are generated, converted into formal policy and implemented. Focus is upon the role of the administrator, and institutional-organizational contexts in which the administrator functions.

5353 **Evaluation of Public Employees**  
(3-0) 3 hours credit.  
An exploration of techniques of evaluating public employees, public wage and salary administration, problems of measuring productivity and types of incentive systems which may be used to increase public employee productivity.

5363 **Environmental Geology**  
(2-3) 3 hours credit.  
Geologic materials and processes as related to their influence on man's physical environment. Effects of landscape modification and geologic hazards such as earthquakes and landslides. Geologic aspects of waste disposal. Medical geology. Water resources. Planning.

5383 **Topics in Health Systems**  
(3-0) 3 hours credit.  
Prerequisite: Consent of instructor.  
This course will discuss the major topics in health systems. It may include such topics as: 1) consumer role in health care systems; 2) changing health care delivery patterns; 3) changing incentive structures; 4) the right to die; 5) national health insurance; 6) changing quality of care; and, 7) growth of technology. May be repeated when subject matter is different.

5403 **Health Effects of Environmental Pollutants**  
(3-0) 3 hours credit.  
Prerequisite: A course in physiology and consent of instructor.  
A course on the effects of pollutants upon the health of human beings. The course will consider how pulmonary irritants, ingested substances and contact materials act in physiological systems and the overall effect of these substances on human health and disease.

5413 **Economics of Health Systems**  
(3-0) 3 hours of credit.  
A study of the economics of health care financing and patterns of expenditure of health care dollars. The course will include evaluation techniques for the determination of need for medical service, availability of resources, and the public policy methods and solutions to resolve problems in health care.

5423 **Employment and Training Programs**  
(3-0) 3 hours credit.  
Discuss and develop methods to evaluate the economic and non-economic impacts of employment and training programs. Contributions of employment and training programs to aggregative economic policies, alleviating economic problems of minority groups and women, and upgrading the labor force will be analyzed from theoretical and practical perspectives.

5433 **Affirmative Action Policies**  
(3-0) 3 hours credit.  
The theoretical bases for affirmative action policies will be explored from economic, political and legal perspectives. The operation of typical policies will be analyzed. The interaction of affirmative action policies with civil service rules, collective bargaining structures and internal personnel systems will be discussed.

5453 **Planning and Management of Manpower Programs**  
(3-0) 3 hours credit.  
Prepares students to work with the tools of analysis of labor market conditions, to understand the development of a manpower plan, and to manage the operations of a local manpower program. It reviews national manpower legislation as well as the performance and evaluation results of actual programs.

5503 **Urban Planning I**  
(3-0) 3 hours credit.  
The course explores the development of methodologies and evolution of the city
planning movement. An introduction to the major concepts and procedures used by city planners with emphasis on the elements and technical functions of the urban general plan.

5513 Urban Research
(3-0) 3 hours credit. Prerequisite: ENV 5503 or consent of instructor.
The development of specific analytical tools used in the analysis of urban activity and the application of these tools to analyze case histories. Model building using the systems approach is utilized.

5523 Comparative Urban Development
(3-0) 3 hours credit.
A comparative study of the interaction of culture, economics, and natural environment as they affect urban development overtime. Areas covered include: pre-industrial cities in the Mediterranean, Medieval Europe, and Pre-Hispanic America. The development of city planning in European and American cities will be considered.

5533 Environment and Systems
(3-0) 3 hours credit.
The theory of growth and change is studied in relation to the spatial relationships of towns, cities and regions. The impact of environmental and public systems as they affect the quality of life are considered and compared to the economic dimensions of these decisions.

5543 Urban Housing
(3-0) 3 hours credit.
An analysis of housing problems, their causes and attempted solutions and ecological effects to include the dynamics of urban growth and aging processes.

5553 Urban Planning II
(3-0) 3 hours credit. Prerequisites: ENV 5503, ENV 5513, or consent of instructor.
This course focuses on the practical application of the analytical tools and techniques available to the city planner in addressing planning problems. Emphasis is placed on developing familiarity and skill in using the supportive research tools needed to accomplish the various elements of an urban general plan.

5723 Applied Geosciences
(2-3) 3 hours credit.
Studies in the applied geosciences, such as geophysics, engineering geology, hydrogeology and meteorology. Laboratory practice, calculations and field work related topics will be covered. May be repeated for credit when the topics vary.

5733 Marine Environment and Resources
(3-0) 3 hours credit.
Study of characteristics, process, and resources of the marine environment with focus upon the application of technology in exploring and developing natural resources for the future.

5813 Energy Conservation and Environment
(3-0) 3 hours credit. Prerequisite: ENV 6603 or consent of instructor.
Analysis of economic opportunities associated with energy conservation practices in transportation, building and construction, industry, utilities, and food production; assessments of environmental consequences resulting from energy production, conversion and utilization; technologies applicable to the evaluation of trade-offs among energy, environment and economic considerations.

5823 Water Supply and Treatment
(3-0) 3 hours credit. Prerequisites: CHE 5303 or consent of instructor; a course in fluid mechanics is recommended.
Discussion of the occurrence, collection, storage, distribution, transmission and quality of water; the physical and chemical methods of water treatment and conditioning; the methods involved in the design process and the selection of hardware.
5873 Water and Wastewater Unit Processes Laboratory  
(2-3) 3 hours credit. Prerequisites: ENV 5823, ENV 6893 or equivalence, and consent of instructor.  
The application of the physical, chemical and biological water and wastewater treatment unit processes on a bench or pilot scale. Experimentation is designed to comprehensively study the operation of these unit processes.

6203 Survey of Environmental Law  
(3-0) 3 hours credit.  
A survey of current law and statutory provisions related to environmental management. Skills in evaluating legal briefs, law reviews and statutes will be developed.

6213 Governmental Regulation in Public and Environmental Management  
(3-0) 3 hours credit. Prerequisite: Consent of instructor  
The course will concern two major aspects of governmental regulations: a) the extent and purpose of the major federal legislation, b) the procedural operation pursuant to the various acts as they would affect the environmental managers. The discussion of the major state regulatory laws will be covered.

6223 Legal Regulation of Urban Systems  
(3-0) 3 hours credit.  
An analysis of the various legal controls that impact on land use, development and planning practice in the U.S. Subjects include zoning, subdivision regulations, building and housing codes, deed restriction, urban renewal, public development and the legal organization for planning implementation.

6293 Seminar in Public and Environmental Management  
(3-0) 3 hours credit.  
A selection of current topics of interest and importance in public and environmental management.

6343 Manpower Planning and Programming: Models and Research  
(3-0) 3 hours credit.  
The theoretical and practical problems involved in forecasting manpower needs and intelligent manpower planning and modeling will be analyzed. Existing techniques will be studied and evaluated, with emphasis on their usefulness for public policy formulation.

6413 Policy and Issues on Energy and Mineral Resources  
(3-0) 3 hours credit. Prerequisites: ENV 6603, ENV 6893, or consent of instructor.  
Evaluation of current national and international energy and mineral resources issues; study of the evolution of national energy policies; energy demand and supply elasticity subject to different pricing policies; energy alternatives development versus costs and adaptability to our modern society.

6503 Urban Design  
(3-0) 3 hours credit.  
A study of the physical interrelationship among urban residential sectors, urban cores, institutional areas, and circulation systems within the context of the natural environment. Scope of study extends from small groups of users to existing and new communities.

6504 Urban Design Laboratory  
(1-6) 4 hours credit. Prerequisite: ENV 6503, or consent of instructor.  
The laboratory study will examine the complex interrelationships of open space, transportation, infrastructure, and other major urban elements related to the economic, legal and institutional aspects of development on selected sites.

6513 Communication Skills for Public Management  
(2-2) 3 hours credit.  
To introduce the student to the use of oral, written, graphics and other representational techniques as a means of expressing and conceptualizing ideas; (1) small group programming, (2) slide video photography as a device to portray situations, (3) writing, presenting and producing a report.
6523 Community Planning and Development
(3-0) 3 hours credit.
Examination of the development of new communities and the redevelopment of older areas including resource commitments and instruments for effectuation and implementation.

6524 Community Planning and Development Laboratory
(1-6) 4 hours credit. Prerequisite: ENV 6523 or consent of instructor.
Field problems in the major phases of new town development and the redevelopment of older urban areas. A practical application of previously studied tools and techniques.

6533 Transportation Planning
(3-0) 3 hours credit.
The course will examine existing and future urban transportation systems and principles in terms of their impact on urban, human and natural resources.

6534 Urban Service Systems
(3-0) 3 hours credit.
Study of urban service systems (e.g., medical service, delivery systems, police systems, fire systems) as interrelated systems by analyzing their measures of effectiveness and common problems. Mathematical models for analyzing these functions are reviewed.

6603 Investigative Methods
(3-0) 3 hours credit. Prerequisites: MAT 1022, MAT 1031, MAT 1051, MAT 1062, ENV 5533, ECO 5043 prior to or concurrent with ENV 6603, or consent of instructor.
Introductory course in systems analysis emphasizing its application for the management of environmental and public systems. Problem formulation, mathematical modeling and solution procedures will be discussed. Quantitative tools will include marginal analysis, classical optimization, linear programming and dynamic programming, stressing both uses and limitations.

6613 Applied Ecology
(2-3) 3 hours credit.
The impact of man's activities on the environment: their effect on water, land, animal, and human resources. An evaluation of present and future strategies to preserve a healthy environment; field work and laboratory practice will be included.

6623 Economics of Natural Resources
(3-0) 3 hours credit.
A study of governmental and private programs to promote prudent, efficient use of natural resources by society. Cost benefit analysis is utilized to evaluate alternate solutions in formulating policy.

6633 Land and Water Economics
(3-0) 3 hours credit. Prerequisite: ENV 6623 or consent of instructor.
A study of the economic aspects of the use, supply, development and management of water and land resources with special emphasis on river basin and project planning, benefit cost analysis, system of accounts analysis, water and land demands and multiple-use management of these resources.

6643 Concepts for Public and Environmental Management
(3-0) 3 hours credit.
The application of management concepts as they relate to the development of human and natural resources and as they apply to urban growth. The initiation, organization, and development of programs to utilize efficiently human and natural resources in urban growth are examined.

6653 Management of Renewable and Recyclable Resources
(3-0) 3 hours credit.
The study of various tools and techniques used in the management of renewable and recyclable resources. Emphasis is placed on the changing role of these resources and their importance to man. Human and technological developments are examined.
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6803 Regulation and Control for Energy (3-0) 3 hours credit. Prerequisites: ENV 6603, ENV 6853, or consent of instructor. Review and evaluation of existing governmental regulations and tax policies upon the production, transmission and utilization of energy resources; assessment of the effectiveness of different control mechanisms for the enhancement of energy resources development as well as environmental protection.

6813 Water Management (3-0) 3 hours credit. An application of management principles to the efficient utilization of water resources by society. A study of water as a resource, its value, uses and changing role over time, as a result of ecological change. The formulation of public policy toward water resources is studied.

6823 Land Management (3-0) 3 hours credit. An analysis of alternative land uses and the methodology by which land use is evaluated. The changing role of land as a resource as it is related to human and technological development is examined. Legal dimensions of natural resources will be considered.

6833 Mineral Resources (3-0) 3 hours credit. Prerequisite: Consent of instructor. The origin, geologic setting and distribution of metallic and non-metallic mineral deposits and fossil fuels. Resources and reserves. Uses, economic conditions, exploration and development methods for mineral commodities. Work with specimens, maps, sections and mineral data.

6843 Groundwater Resources Management (3-0) 3 hours credit. Study of the characteristics, occurrence, distribution, transport, quality, and consumption of groundwater resources with emphasis placed on efficient usage and conservation.

6853 Energy Resources Management (3-0) 3 hours credit. Prerequisite: Physical Science background or the consent of instructor. The flow of energy through agricultural and industrial social systems will be traced from production to final dissipation as heat, and each step will be investigated, together with its environmental impacts.

6863 Air Quality Management (3-0) 3 hours credit. Prerequisite: Consent of instructor. An introduction to the broad field of air pollution control; the sources and physical, chemical and biological effects of air pollutants. Discussed are the overall objectives and systematic efforts to deal with air pollution, including air quality criteria, development of air quality standards, and plans for implementing them.

6873 Air Pollution Control (3-0) 3 hours credit. Prerequisite: ENV 6863 or consent of instructor. The measurements of individual constituents; specific methods of air pollution control techniques; and the instrumentation and equipment available for both air pollution survey and control.

6883 Solid Waste Management (3-0) 3 hours credit. Prerequisite: ENV 6603 or consent of instructor. Characteristics of and problems associated with solid wastes from municipal, industrial and wastewater treatment sources; methods of collection, processing and disposal of various kinds of solid waste; the systems approach applied to facility location, energy and material recovery, and regional solid waste management.

6893 Water Pollution Control Design and Operation (3-0) 3 hours credit. Prerequisite: CHE 5303 or consent of instructor. Principles and methods of water pollution control process design and operation; and the selection and optimization of total treatment processes as well as appurtenances and accessory equipments; the methods involved in the design process and the selection of the hardware.
Problem Solving in Energy Systems
(3-0) 3 hours credit. Prerequisites: ENV 6603, ENV 6853 or consent of instructor. Application of quantitative methodologies and techniques to problems of planning and management of energy systems; problem areas including energy demand and supply projections; energy transmission; facility locations; fuel substitution; reliability of power grids; pricing and taxing policies; formulation and solution of problems of environment, energy and economy.

Decision Analysis for Public and Environmental Management
(3-0) 3 hours credit. Prerequisite: ENV 6603 or consent of instructor. The role of analysis tools in the areas of costing analysis, decision, and utility theory as they are applied to the efficient utilization of natural resources. The subject is approached from a public sector rather than from a business firm point of view.

Modeling and Analysis of Environmental Systems
(3-0) 3 hours credit. Prerequisites: ENV 6603 and ENV 6913, or consent of instructor. An advanced course in the application of systems analysis to the solutions of environmental problems; emphasis will be on gaining practical experience in the art of building and solving mathematical models. The approach will be problem, rather than technique, oriented.

Workshop in Public and Environmental Management
(0-6) 3 hours credit. Provide the student with a team experience in working with citizens' groups, planning agencies, and local governments on plans, issues or programs related to planning and management in the public sector. Students perform planning and management studies under faculty supervision. May be repeated once for credit with advisor's consent.

Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor, the student's Graduate Advisor, and the Division Director and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

Internship
3 hours credit. Prerequisite: Approval of the Dean. An opportunity will be provided the student to work in an environmental management setting which will permit him to apply the knowledge learned in the formal instruction part of the program. May be repeated for credit to a maximum of 6 hours.

Special Problems
1 to 3 hours credit. Prerequisite: Consent of instructor. An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Problems Courses may be repeated for credit when the topics vary, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

Master's Thesis
3 hours credit. Prerequisite: Admission to candidacy and permission of the Graduate Advisor and thesis director. Thesis research preparation. May be repeated for credit, but not more than 6 hours will apply to the Master's degree. Credit will be awarded upon completion of the thesis. Enrollment is required each term in which the thesis is in progress.
DIVISION OF SPECIAL PROGRAMS
COURSE DESCRIPTIONS
MUSEUM SCIENCE
(MSM)

5013 History and Theory of the Museum
(3-0) 3 hours credit.
Historical development, types (art, history, science, technology), functions, administration, funding, building design, staffing, visitor relations, public relations, etc.

5023 Technical Aspects of Museum Work
(3-0) 3 hours credit.
Preparation, conservation and restoration of collections, exhibit design, graphics production, archival photography, audiovisual technology, graphic image research.

5301, 2 Topics in Museum Science
(1-0 or 0-2) 1 hour credit or (2-0, 1-2, 0-4) 2 hours credit.
A series of mini courses designed to give in-depth knowledge and training in specialized areas of museum science. Topics include: record keeping, care and storage of artifacts and prints, registration, accessioning, acquisition, cataloging of collections, museum administration (budgeting, personnel, accounting, purchasing, funding, property control), editorial and curatorial duties and special events. May be repeated for credit when these topics vary.
COLLEGE OF SCIENCES AND MATHEMATICS
DIVISION OF ALLIED HEALTH AND
LIFE SCIENCES
MASTER OF SCIENCE DEGREE IN BIOLOGY

The graduate program in biology is directed to those students who desire advanced education in specialized areas of the life sciences. Two degree options are available: a thesis program recommended for those desiring to develop expertise in research design and methodology; and a non-thesis program, for students who wish to obtain the M.S. degree through course work. The thesis option provides in-depth knowledge of a specialized field of interest and is recommended for the student planning a research career. The non-thesis program is particularly suitable for individuals teaching in the life sciences.

Graduate faculty in areas such as Biochemistry, Cellular Biology, Developmental Biology, Ecology, Genetics, Immunology, Microbiology, Molecular Biology, Neurobiology, Physiology, and Plant Sciences provide the foundation for the Division’s interdisciplinary graduate program. A special program in marine biology and ecology is available in collaboration with the Marine Science Institute of The University of Texas located at Port Aransas, Texas. Due to the multidisciplinary nature of the Division, students may pursue studies in a number of interdisciplinary areas such as Cell and Molecular Biology, Ecological Systems and Regulatory Biology. Individual programs are organized around each student’s interests in consultation with the student’s Graduate Advisor.

Special Admission Requirements. Ordinarily, applicants are expected to have completed an undergraduate major in biology. It is strongly recommended that students have at least one semester of organic chemistry and calculus. Students whose undergraduate preparation is not adequate to pursue the graduate program will be required to complete the necessary courses as conditions of admission. Those students who have less than full preparation should anticipate that additional time will be required to complete the degree.

Degree Requirements. All candidates for the degree are required to complete successfully 36 semester hours of graduate credit as recommended by the Committee on Graduate Studies and approved by the Division Director and Dean. These 36 hours will be subject to the following conditions:

1. A minimum of 18 semester hours of graduate credit in organized classes must be earned within the Division.
2. An additional 12-15 hours of course work as approved by the Committee on Graduate Studies and approved by the Division Director and Dean.
3. A student electing the non-thesis program is required to complete 3 hours of BIO 6951-3, Independent Study, in addition to 18 hours in organized classes in the Division.
4. If a student elects the thesis program, 6 hours of BIO 6983, Master’s Thesis, must be completed in addition to the 18 hours in organized classes within the Division.

All candidates for the degree must be admitted to candidacy normally at the end of one semester of full-time study or upon completion of 12 semester hours of graduate work. To be admitted to candidacy a student must have an acceptable Program of Study and must be recommended for Admission to Candidacy by the appropriate Committee on Graduate Studies and Division Director and must be approved for Admission to Candidacy by the Dean. Additional requirements for Admission to Candidacy are set forth in that section of the present catalog.
COURSE DESCRIPTIONS

BIOLOGY
(BIO)

5011 Life Sciences Colloquium
(1-0) 1 hour credit. Prerequisite: Graduate standing.
Current research presented by faculty, visiting lecturers and thesis candidates.
May be repeated for credit.

5041 Graduate Seminar in Life Sciences
(1-0) 1 hour credit. Prerequisite: Graduate standing.
An opportunity for graduate students to participate in a weekly seminar program
under the supervision of a faculty member. Graduate students will not only be re­
sponsible for the content of the program, but will also present the seminars. May
be repeated for credit.

5052 Seminar in Life Sciences
(2-0) 2 hours credit. Prerequisite: Graduate standing.
Discussions, current literature and recent advances in specialized areas of Allied
Health and Life Sciences. Seminars are organized according to areas of interest
and may be repeated for credit.

5063 Life Sciences Today
(3-0) 3 hours credit.
An in-depth study of biology, stressing the physical and chemical basis of living
systems. The course is suitable for a non-biologist desiring an understanding of
modern biological concepts.

5233 Environmental and Population Biology
(3-0) 3 hours credit. Prerequisite: Graduate standing or consent of instructor.
The role of the environment in population regulation and control. To include topics
such as environmental cycles of the past and subsequent population changes, hu­
man alterations of the environment and their consequences.

5263 Microbial Ecology
(3-0) 3 hours credit. Prerequisite: BIO 3713.
A study of the mutual relationships between microorganisms and their environ­
ment, especially natural habitats of microorganisms (including normal human flora
and pathogens), parasitism, and opportunism in various microbial species.

5271 Microbial Ecology Laboratory
(0-3) 1 hour credit.
Must be taken concurrently with BIO 5263.

5283 Urban Wildlife Management
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
Commensal and noncommensal vertebrates that cause severe economic and
health problems for mankind will be studied.

5313 Cytogenetics
(3-0) 3 hours credit. Prerequisite: BIO 2313 or the equivalent.
An analysis of chromosome structure and function, gene location crossing-over
and variations in chromosome structure and number.

5321 Cytogenetics Laboratory
(0-3) 1 hour credit.
Must be taken concurrently with BIO 5313.

5333 Ecological Genetics
(3-0) 3 hours credit. Prerequisites: BIO 2313 and BIO 2321 or the equivalent. Bio­
statistics highly recommended.
An experimental approach to the interaction of genotype and environment in popu­
lations with emphasis on mutagenesis, selection, polymorphism, and adaptive
mechanisms.
5341  Ecological Genetics Laboratory  
(0-3) 1 hour credit.  
Must be taken concurrently with BIO 5333.

5353  Molecular and Biochemical Genetics  
(3-0) 3 hours credit.  Prerequisites: BIO 2313 and BIO 3513 or the equivalent.  
Molecular and biochemical aspects of structure, replication, mutation and phenotypic expression of genetic material.

5404  Advanced Mammalian Physiology  
(4-0) 4 hours credit.  Prerequisite: BIO 3413 or the equivalent.  Physiology of the organs and organ systems of mammals.

5412  Advanced Mammalian Physiology Laboratory  
(0-6) 2 hours credit.  
Must be taken concurrently with BIO 5404.

5422  Neuroanatomy  
(2-0) 2 hours credit.  Prerequisite: Consent of instructor.  
The anatomy of the vertebrate nervous system.

5434  Neurophysiology  
(4-0) 4 hours credit.  Prerequisites: BIO 4413 or equivalent and BIO 5422 or concurrent enrollment.  
Physiology of the mammalian nervous system.  Emphasis on sensory and motor systems and neural correlations of behavior.

5463  Reproductive Physiology  
(3-0) 3 hours credit.  Prerequisites: Courses in organ systems physiology and endocrinology or consent of instructor.  
A comparative study of mammalian reproduction with emphasis on the human, including cellular and systems mechanisms, hormonal regulation, and the effects of environmental factors.

5471  Reproductive Physiology Laboratory  
(0-3) 1 hour credit.  
Must be taken concurrently with BIO 5463.

5513  Graduate Biochemistry  
(3-0) 3 hours credit.  Prerequisite: BIO 3513 or equivalent.  
An in-depth discussion of structure-function relationships in biological systems, including bioenergetics of metabolism and hormonal and non-hormonal regulation of metabolic pathways.

5523  Enzymes  
(3-0) 3 hours credit.  Prerequisite: BIO 3513 or the equivalent.  
A study of enzyme structure and mechanism; inhibitors; cofactors; kinetics; regulation.

5533  Enzymes Laboratory  
(0-9) 3 hours credit.  
Must be taken concurrently with BIO 5523.  Enzyme isolation; analysis for purity and structure; enzyme kinetics.

5563  Biochemical Macromolecules  
(3-0) 3 hours credit.  Prerequisite: BIO 3513 or the equivalent.  
Structure, function, and isolation of macromolecules.  Emphasis is on nucleic acids and proteins and their interactions.

5571-3  Experimental Techniques in the Life Sciences  
(0-3-9) 1 to 3 hours credit.  Prerequisite: Consent of instructor.  
Topics will include research methods in cell and molecular biology, ecology, and regulatory biology.  May be repeated for credit as topics vary.

5633  Cytodifferentiation  
(3-0) 3 hours credit.  Prerequisite: Graduate standing in the Life Sciences.  
Detailed study of selected areas of developmental biology relating to cellular differentiation, including nuclear-cytoplasmic interactions, induction and reversibility of differentiation.
5743 Biochemical Virology
(3-0) 3 hours credit. Prerequisites: BIO 3713 and BIO 3513.
A detailed study of the diversity of viruses and biochemical mechanisms for their replication.

5751 Biochemical Virology Laboratory
(0-3) 1 hour credit. Must be taken with or following BIO 5743.

5833 Membrane Structure and Function
(3-0) 3 hours credit. Prerequisite: BIO 3513 or the equivalent.
A study of the composition, organization, transport functions and permeability of natural and model membranes.

6112 Advanced Plant Physiology
(2-0) 2 hours credit. Prerequisite: BIO 4603 or consent of instructor.
Principles of plant physiology and biochemistry, with particular emphasis on plant hormones, nitrogen fixation, plant respiration, photosynthesis, and current research work.

6122 Advanced Plant Physiology Laboratory
(0-6) 2 hours credit. Must be taken concurrently with BIO 6112.
Techniques used in plant physiology, relating to ion uptake, respiration, photosynthesis, transpiration and action of plant hormones.

6132 Methods in Field Ecology
(2-0) 2 hours credit. Prerequisite: Consent of instructor.
Examination of techniques to collect, identify, and preserve plants and animals. Field methods used in the analysis of populations and communities will be considered.

6142 Methods in Field Ecology Laboratory
(0-6) 2 hours credit. Must be taken concurrently with BIO 6132.
Application of field techniques used to collect, identify, and preserve organisms, and to study populations and communities. Will involve frequent and extensive (several days) field trips to the major biomes in Texas and adjoining states.

6212 Advanced Plant Ecology
(2-0) 2 hours credit. Prerequisite: Undergraduate plant ecology or consent of instructor.
Interaction of terrestrial plants with their environment, allelopathy and competition, plant distribution, succession, and factors that control plant growth and dispersal. Special consideration will be given the concepts of climax and succession, and land management.

6222 Advanced Plant Ecology Laboratory
(0-6) 2 hours credit. Must be taken concurrently with BIO 6212.
Techniques and quantitative measurements used in plant ecological research will be demonstrated. Field trips will include the major plant communities in Texas.

6252 Advanced Animal Ecology
(2-0) 2 hours credit. Prerequisite: BIO 3213 or consent of instructor. Interaction of terrestrial animals with their environment; discussion of factors that affect animal distribution, populations, and the biotic and abiotic factors that control growth and dispersal in relation to habitat management.

6262 Advanced Animal Ecology Laboratory
(0-6) 2 hours credit. Must be taken concurrently with BIO 6252.
Methods and techniques used to estimate various types of animal populations. Field trips will include major habitats found in Texas.

6273 Marine Ecology
(3-0) 3 hours credit. Prerequisite: BIO 4003 or consent of instructor.
Marine communities and the chemical, physical, and biological factors that influence them.
6282 Marine Ecology Laboratory
(0-6) 2 hours credit. Must be taken concurrently with BIO 6273.
Field examination and laboratory analysis of representative marine communities in Texas. Weekend field trips required.

6373 Invertebrate Physiology
(3-0) 3 hours credit. Prerequisite: BIO 3413.
An investigation of the mechanisms of respiration, movement, ion and water regulation and hormonal integration in the invertebrates.

6381 Invertebrate Physiology Laboratory
(0-3) 1 hour credit.
Must be taken concurrently with BIO 6373.

6463 Environmental Physiology
(3-0) 3 hours credit. Prerequisite: BIO 3413 or the equivalent.
Physiological responses to heat, cold, light, social stimuli and atmospheric pressure in the vertebrate organisms.

6471 Environmental Physiology Laboratory
(0-3) 1 hour credit.
Must be taken concurrently with BIO 6463.

6482 Animal Behavior
(2-0) 2 hours credit. Prerequisite: BIO 3413.
Origins and trends of major behavioral patterns with emphasis on organization and adaptive significance. Neural, endocrine, genetic and environmental factors modifying behavior will be examined.

6491 Animal Behavior Laboratory
(0-3) 1 hour credit. Must be taken concurrently with BIO 6482.

6643 Cellular and Molecular Biology
(3-0) 3 hours credit. Prerequisites: BIO 3513 and BIO 3813 or consent of instructor.
Structure of eucaryotic and procaryotic cells, functions of biomembranes and cytoplasmic organelles, and regulation of cellular activity.

6663 Experimental Parasitology
(3-0) 3 hours credit. Prerequisite: A course in parasitology or consent of instructor.
A study of animal parasites with special emphasis on the physiology of host-parasite interactions.

6671 Experimental Parasitology Laboratory
(0-3) 1 hour credit.
Must be taken concurrently with BIO 6663.

6773 Host-Parasite Interactions
(3-0) 3 hours credit. Prerequisite: BIO 4782.
A study of infectious disease processes with emphasis on host-parasite relationships of selected microbial pathogens.

6782 Diagnostic Microbiology
(2-0) 2 hours credit. Prerequisites: BIO 4792 and consent of instructor.
Recent developments in principles and techniques of diagnostic and epidemiologic microbiology with applications in the clinical laboratory.

6791 Diagnostic Microbiology Laboratory
(0-3) 1 hour credit.
Must be taken concurrently with BIO 6782.

6803 Immunology and Immunochemistry
(3-0) 3 hours credit. Prerequisites: BIO 4743 and BIO 4751.
The study of current concepts of humoral and cell-mediated immunity with emphasis on molecular mechanisms.

6813 Information Retrieval: Biomedical Applications
(3-0) 3 hours credit. Prerequisites: CS 5053 or the equivalent, or consent of instructor.
Reporting, analysis, storage retrieval of biomedical data; emphasis on application
of systems analysis to epidemiology of hospital infections, environmental control, fate of clinical reports.

6823 Molecular Radiation Biology
(3-0) 3 hours credit. Prerequisites: BIO 3513, BIO 3533 or consent of instructor. Biological effects of ionizing and non-ionizing radiation and the mechanisms of repair of radiation damage at the cellular and subcellular level.

6873 Microbial Physiology and Energetics
(3-0) 3 hours credit. Prerequisites: BIO 3513 and BIO 3713. Consideration of physiological activities of microorganisms with special emphasis on metabolic capabilities of bacteria and other microorganisms.

6881 Microbial Physiology Laboratory
(0-3) 1 hour credit. Must be taken concurrently with BIO 6873.

6951-3 Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor, the student's Graduate Advisor, and the Division Director and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

6971-3 Special Problems
1 to 3 hours credit. Prerequisite: Consent of instructor. An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Problems courses may be repeated for credit when the topics vary, but not more than 6 hours, regardless of discipline, may be applied to the Master’s degree.

6983 Master's Thesis
3 hours credit. Prerequisites: Admission to candidacy and permission of the Graduate Advisor and thesis director. Thesis research and preparation. May be repeated for credit, but not more than 6 hours will apply to the Master's degree. Credit will be awarded upon completion of the thesis. Enrollment is required each term in which the thesis is in progress.
DIVISION OF EARTH AND PHYSICAL SCIENCES
MASTER OF SCIENCE DEGREE IN CHEMISTRY

The purpose of the graduate program in chemistry is to provide a sound preparation in the fundamentals of several areas of chemistry, an introduction to recent advances in theory and methods, and to encourage research experience in a specific area of study.

Graduate study in chemistry is offered leading to the M. S. degree with the following interest areas: organic, inorganic, physical and bio-organic chemistry.

Faculty expertise in each of the offered areas provides direct student-faculty interaction for Thesis development through course work and research. Additional cooperative projects and programs are available with other area research institutions.

**Special Admission Requirements.** In addition to satisfying the university-wide graduate admission requirements, a candidate for the Master of Science degree with a major in Chemistry must complete or have completed a minimum of twenty-four undergraduate semester hours in chemistry, of which twelve or more must be upper-division courses. Included in the undergraduate chemistry requirement are two semesters each of both organic and physical chemistry and one semester of biochemistry with the appropriate laboratory for each. All undergraduate chemistry must be completed with a grade of B or higher.

**Degree Requirements.** The Master of Science program requires the successful completion of 36 semester hours. The following plan must be followed by all candidates:

- CHE 5113 Advanced Organic Chemistry I (3 semester hours)
- CHE 5133 Advanced Inorganic Chemistry I (3 semester hours)
- CHE 5163 Advanced Instrumental Analysis (3 semester hours)
- CHE 5173 Techniques of Chemical Research (3 semester hours)
- CHE 5213 Chemical Thermodynamics (3 semester hours)
- CHE 5271 Graduate Seminar in Chemistry (3 semester hours)
- CHE 6983 Master's Thesis, including an oral defense of the written thesis (6 semester hours)

A minimum of 6 semester hours, as recommended by the Committee on Graduate Studies and approved by the Division Director and Dean, are required from one of the following interest areas:

1. For the Bio-organic Chemistry specialization:
   - CHE 5153 Biochemical Structure and Reactions of Organic Macromolecules
   - CHE 5503 Bio-organic Chemistry
   - CHE 5513 Biophysical Chemistry
   - CHE 6113 Advanced Organic Chemistry II

2. For the Inorganic Chemistry specialization:
   - CHE 5523 Bio-inorganic Chemistry
   - CHE 5613 Applications of Symmetry
   - CHE 6133 Advanced Inorganic Chemistry II

3. For the Organic Chemistry specialization:
   - CHE 5413 Advanced Organic Laboratory
   - CHE 6113 Advanced Organic Chemistry II
   - CHE 6123 Methods of Organic Synthesis
4. For the Physical Chemistry specialization:

CHE 5243 Quantum Chemistry
CHE 5623 Statistical Thermodynamics
CHE 5633 Physical Chemistry of Macromolecular Systems

Supportive electives in chemistry, advanced mathematics, computer science, and/or biology as recommended by the Committee on Graduate Studies and approved by the Division Director and Dean (6 semester hours).

All candidates for the degree must be admitted to candidacy normally at the end of one semester of full-time study or upon completion of 12 semester hours of graduate work. To be admitted to candidacy a student must have an acceptable Program of Study and must be recommended for Admission to Candidacy by the appropriate Committee on Graduate Studies and Division Director and must be approved for Admission to Candidacy by the Dean. Additional requirements for Admission to Candidacy are set forth in that section of the present catalog.

COURSE DESCRIPTIONS

CHEMISTRY

CHEMISTRY (CHE)

5113 Advanced Organic Chemistry I
(3-0) 3 hours credit. Prerequisites: Eight hours each of undergraduate organic chemistry and physical chemistry or graduate standing in chemistry.
An advanced study of topics in organic chemistry such as natural products; conformational analysis; nonbenzenoid aromaticity; biogenesis and biosynthesis; stereochemistry; modern synthetic reactions involving functional group transformations.

5133 Advanced Inorganic Chemistry I
(3-0) 3 hours credit. Prerequisite: Three credits of upper-division inorganic chemistry.
Modern theories of chemical bonding and structure in inorganic chemistry; acid-base reactions; electrochemistry; symmetry; and descriptive chemistry.

5153 Biochemical Structure and Reactions of Organic Macromolecules
(3-0) 3 hours credit. Prerequisites: CHE 5113 and BIO 3513 or consent of instructor.
The study of the organic chemistry of macromolecular assemblies of biochemical importance: chemical bonding and structure of amides, esters, nucleic acids, etc.; normal and inverted micellar systems; hydrophilic interactions; hydrophobic interactions, hydrogen bonding; and chemical stimulation/inhibition of polymerization/organization of macromolecular assemblies.

5163 Advanced Instrumental Analysis
(2-3) 3 hours credit. Prerequisites: CHE 3223 and CHE 3232.

5173 Techniques of Chemical Research
(1-6) 3 hours credit. Prerequisite: Graduate standing in chemistry.
A study of experimental design, literature survey, research tools, result reporting and other topics.

5213 Chemical Thermodynamics
(3-0) 3 hours credit. Prerequisite: Eight hours each of undergraduate organic chemistry and physical chemistry or graduate standing in chemistry.
An advanced study of chemical thermodynamics. Discussion of chemical, electrochemical, and interphase equilibria.
5223 Chemical Kinetics
(3-0) 3 hours credit. Prerequisite: CHE 3223 or its equivalent.
An advanced study of topics in chemical kinetics, including electrochemical processes and transport phenomenon in inorganic and organic systems.

5243 Quantum Chemistry
(3-0) 3 hours credit. Prerequisites: CHE 4253 and MAT 2213 or consent of instructor.
A study of concepts and methods of quantum mechanics with emphasis on the nature of the chemical bond and the interaction of electromagnetic radiation with molecules.

5271 Graduate Seminar in Chemistry
(0-3) 1 hour credit. Prerequisite: Graduate standing in chemistry or consent of the Division Director.
Presentations of seminars based on the chemical literature that deal with current areas of research concern. The course will alternate in topics: inorganic/bio-inorganic, organic/bio-organic, and physical/bio-physical chemistry. The course may be repeated for credit when the topics vary. Participation in announced Divisional seminars is also required.

5303 Environmental Chemistry
(2-3) 3 hours credit. Prerequisite: One year of undergraduate chemistry or consent of instructor.
An introductory course relating basic inorganic, organic, physical and biochemical principles to environmental problems. Analytical methods used in environmental control are considered.

5323 Chemistry and Physics of the Atmosphere
(3-0) 3 hours credit. Prerequisite: CHE 5303 or consent of the instructor.
Chemical and photochemical processes in the troposphere and stratosphere. Generation and chemical modifications of atmospheric pollutants, transport phenomena. Physical and chemical methods of detection of air pollutants.

5333 Chemistry and Physics of Liquid and Solid Pollutants
(3-0) 3 hours credit. Prerequisite: CHE 5303 or consent of the instructor.

5341 Instrumental Analysis of Pollutants
(0-3) 1 hour credit. Prerequisites: CHE 5323 and CHE 5333.
Laboratory course in instrumental analysis and monitoring of gaseous, liquid, and solid pollutants. Spectroscopic and optical methods, mass spectrometry and chromatography, and electro-chemical techniques. Instrument-computer interfacing.

5413 Advanced Organic Laboratory
(0-8) 3 hours credit. Prerequisites: CHE 4243 or concurrent registration in CHE 5113 or the consent of the instructor.

5423 Synthesis of Macromolecules
(3-0) 3 hours credit. Prerequisite: CHE 5113 or the consent of the instructor.
Synthesis of polymer forming monomers as well as examination of polymerization processes. Formation of polyesters, polyamides, polyethers, polyolefins, plastics, crown ethers, and polyheterocycles. Modes of addition, substitution, and condensation reactions of polymerization.

5433 Computer Analysis of Instrumental Data
(2-3) 3 hours credit. Prerequisites: CS 5053 or equivalent, CHE 5113, CHE 5163, and CHE 5213 or consent of the instructor.
Principles of instrument — computer interfacing; computer processing of measured instrumental data; computer controlling of chemical experiments; mathematical modeling of chemical systems.
5443 **Polymer Chemistry**  
(3-0) 3 hours credit. Prerequisite: CHE 5423 or consent of instructor. Preparation, structure and properties of addition, condensation, block and graft polymers. Chemical modifications, cross-linking and mechanisms of polymer reactions will be discussed.

5503 **Bio-Organic Chemistry**  
(3-0) 3 hours credit. Prerequisite: CHE 5113 or consent of the instructor. Chemical transformations of biochemically important organic compounds and the examination of enzyme active sites from the viewpoint of mechanisms based on chemical modeling studies. Discussion of theories of chemical catalysis, stereochemistry, electron-transfer, chemical kinetics, and molecular structure.

5513 **Biophysical Chemistry**  
(3-0) 3 hours credit. Prerequisites: CHE 5113 and CHE 5213 or consent of the instructor. Physical chemistry of natural macromolecular systems. Spectroscopy: UV, Visible, and CD spectroscopy of proteins and nucleic acids; Fluorescence (steady-state and emission kinetics) of proteins, nucleic acids, and extrinsic labels; Nuclear and electron magnetic resonance of enzymes and cell membranes. Thermodynamics of macromolecular interactions: linked functions and allosteric models.

5523 **Bio-Inorganic Chemistry**  
(3-0) 3 hours credit. Prerequisite: CHE 5133. The study of biochemical oxidation — reduction reactions involving transition metals. Examination of the chemistry of Na, K, Ca, Mg, and P in transport phenomenon and catalysis. Discussion of metalloproteins and inner sphere vs. outer sphere electron transfer.

5613 **Applications of Symmetry**  
(3-0) 3 hours credit. Prerequisites: CHE 5133 and CHE 5213. The applications of group theory in inorganic and organic chemistry with emphasis on its use in spectroscopy and crystallography.

5623 **Statistical Thermodynamics**  
(3-0) 3 hours credit. Prerequisite: CHE 3223 or its equivalent. A molecular approach to the study of the physico-chemical properties of gases, liquids, and solids. A molecular study of chemical and interphase equilibria.

5633 **Physical Chemistry of Macromolecular Systems**  
(3-0) 3 hours credit. Prerequisites: CHE 5163 and CHE 5213. Study of thermal, mechanic, electric, and optical properties of organic and inorganic macromolecular compounds with emphasis on principles and experimental techniques.

6113 **Advanced Organic Chemistry II**  
(3-0) 3 hours credit. Prerequisite: CHE 5113 or the consent of the instructor. Study of organic reaction mechanisms with emphasis on physical organic and kinetic techniques. Application of molecular orbital theory to organic reactions.

6123 **Methods of Organic Synthesis**  
(3-0) 3 hours credit. Prerequisite: CHE 6113 or the consent of the instructor. The theory of molecule building to achieve total synthesis of interesting and important compounds through a systematic examination of modern methods of organic functional group transformations. Rational syntheses of organic molecules such as natural products, terpenes, steroids, and other molecules of biological importance.

6133 **Advanced Inorganic Chemistry II**  
(3-0) 3 hours credit. Prerequisite: CHE 5133. Theories of bonding in transition metals including valence bond, crystal field and molecular orbital theory; metal ion complexation, transition metal geometry; mechanisms of transition metal ion reactions.

6903 **Progress in Chemistry**  
(3-0) 3 hours credit. Prerequisites: Consent of instructor. An organized course offering a specialized study of current aspects of chemistry not normally available as part of the regular course offerings. The course may be
repeated for credit, but not more than 6 credit hours may be applied to the Master's degree.

**6951-3 Independent Study**
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor, the student's Graduate Advisor, and the Division Director and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

**6971-3 Special Problems**
1 to 3 hours credit. Prerequisite: Consent of instructor. An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Problems courses may be repeated for credit when the topics vary, but not more than 6 hours, regardless of discipline, will apply to a Master's degree.

**6983 Master's Thesis**
3 hours credit. Prerequisites: Admission to candidacy and permission of the Graduate Advisor and thesis director. Thesis research and preparation. May be repeated for credit, but not more than 6 hours will apply to the Master's degree. Credit will be awarded upon completion of the thesis. Enrollment is required each term in which the thesis is in progress.

**COURSE DESCRIPTIONS**

**EARTH AND PHYSICAL SCIENCES (EPS)**

**5303 Environmental Physics**
(3-0) 3 hours credit. Prerequisite: Undergraduate general Physics. Principles of physics applied to the understanding and solution of environmental problems. Topics include mechanics, fluid flow, atmospheric structure, solar and terrestrial radiation, weather data and analysis, and micrometeorology.

**5403 Earth Science**
(2-3) 3 hours credit. Study of the solid earth, oceans and atmosphere. Composition and physical processes of the earth's crust, interpretation of ancient environments and the evolution of North America.

**5413 Field Geology**
(0-8) 3 hours credit. Prerequisite: A course in general geology or consent of instructor. Field study of igneous, sedimentary, and metamorphic rocks. Construction of planimetric and topographic maps, use of aerial photographs and instruction in basic surveying techniques. Three weeks, full-time, in the San Antonio and Central Texas area.

**5423 Minerals and Rocks**
(2-3) 3 hours credit. Prerequisite: A course in general geology or consent of instructor. Crystallography and crystal chemistry. Physical properties and identification of the more common minerals. Origin, occurrence and identification of major rock types.

**5433 Marine Geology**
(3-0) 3 hours credit. Prerequisite: A course in general geology or consent of instructor. A survey of the geologic processes in the oceans, nature of the ocean basins, current patterns and element distribution.

**5443 Applied Geology**
(2-3) 3 hours credit. Prerequisite: A course in introductory geology or consent of instructor.
5454 **Paleontology**
(3-3) 4 hours credit. Prerequisite: A course in historical geology or consent of instructor.
Morphology, classification and distribution of invertebrate, vertebrate, and plant fossils. Elements of evolution and paleoecology. Methods of study.

5703 **Physical Science Studies I**
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
A non-calculus study of the principles of physics and chemistry. May not be used to satisfy the requirements of a major in either of these subjects.

5713 **Physical Science Studies II**
(3-0) 3 hours credit. Prerequisite: Credit for Physical Science Studies I or consent of instructor.
A non-calculus study of the principles of chemistry, geology and astronomy. May not be used to satisfy the requirements of a major in any of these subjects.

5723 **Recent Developments in Physical Science**
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
Studies of recent developments in physical science. A course intended for individuals teaching chemistry, earth science or physics. May not be used to satisfy the requirements of a major in any of these subjects.

5733 **Future Energy Sources**
(3-0) 3 hours credit. Prerequisites: Consent of instructor and one year of introductory undergraduate physics.
A study of research directions aimed at meeting major energy needs: in the short term, new techniques for more efficient use of conventional sources such as oil, coal, and nuclear fission; in the long term, feasible but as yet unproven technologies such as nuclear fusion and solar energy generation in space.

5753 **Physics of Materials**
(3-0) 3 hours credit. Prerequisite: PHY 3313 or consent of instructor.
Interactions of radiation (X-ray, light, nuclear) with materials, solid state physics, surface properties, and rheology of materials.

6903 **Progress in Physics**
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering a specialized study of current aspects of physics not normally available as part of the regular course offerings. The course may be repeated for credit, but not more than 6 credit hours may be applied to the Master's degree.

6951-3 **Independent Study**
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor, the student's Graduate Advisor, and the Division Director and Dean of the College in which the course is offered.
Independent reading, research, discussion, and/or writing under the direction of a faculty member. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

6971-3 **Special Problems**
1 to 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Problems Courses may be repeated for credit when the topics vary, but not more than 6 hours, regardless of discipline, will apply to a Master's degree.
The graduate program in Mathematics, Computer Science, and Systems Design is directed to those individuals who desire training in both mathematics and computer science. The courses recommended in computer science and systems design incorporate the basic concepts suggested by the Institute of Electrical and Electronics Engineers Computer Society and the Association for Computing Machinery curricula groups.

Because of the heterogeneous backgrounds and interests of students in this area, a multi-track program is available. Students upon consultation with the graduate advisor, may select degree programs ranging from mathematics or statistics to a computer science or digital systems design orientation. Additionally, students may supplement mathematics, statistics, computer science, and systems design courses with approved courses from other disciplines.

**Special Admission Requirements.** It is recommended highly that at least a B.A. or B.S. in mathematics or computer science or a closely related field be completed as preparation. Those students who do not qualify for unconditional admission should anticipate that additional undergraduate and/or graduate course work may be required to complete the degree.

**Degree Requirements.** All candidates for the degree are required to complete successfully 36 semester hours of credit. These 36 hours will be subject to the following conditions:

1. A minimum of 21 hours of course work must be chosen from eligible courses within the Division of Mathematics, Computer Science, and Systems Design with numbers greater than 5000.
2. Each student in the Master's program is required either to write a Master's thesis or complete 6 hours of advanced courses in the Division as recommended by the Committee on Graduate Studies and approved by the Division Director and Dean.
3. Upon the recommendation of the Committee on Graduate Studies and approval by the Division Director and Dean, 6 semester hours chosen from courses numbered between 3000 and 4999 within the Division of Mathematics, Computer Science, and Systems Design may be included in the degree program.
4. A sufficient number of additional graduate hours to complete the required 36 hours may be selected from other disciplines upon the recommendation of the Committee on Graduate Studies and approved by the Division Director and Dean.

All candidates for the degree must be admitted to candidacy normally at the end of one semester of full-time study or upon completion of 12 semester hours of graduate work. To be admitted to candidacy a student must have an acceptable Program of Study and must be recommended for Admission to Candidacy by the appropriate Committee on Graduate Studies and Division Director and must be approved for Admission to Candidacy by the Dean. Additional requirements for Admission to Candidacy are set forth in that section of the present catalog.
COURSE DESCRIPTIONS

MATHEMATICS

5003 Modern Mathematics for Teachers
(3-0) 3 hours credit.
A practical orientation concerned with the classroom uses of mathematics for teachers of K-12. This course cannot be applied to the major in Mathematics, Computer Science, and Systems Design without the recommendation of the Committee on Graduate Studies and approval of the Division Director and Dean.

5013 Mathematics for Inservice Teachers
(3-0) 3 hours credit.
General topics course for practicing teachers wherein the orientation is selected by both the instructor and the teacher participants. This course cannot be applied to the major in Mathematics, Computer Science, and Systems Design without the recommendation of the Committee on Graduate Studies and approval of the Division Director and Dean.

5053 Methods in Calculus I
(3-0) 3 hours credit. Prerequisite: MAT 1011 or the equivalent.
This is the first semester of a two-semester course in calculus and its applications. Areas of study include differentiation, integration, partial derivatives, multiple integration, and Taylor series. This course cannot be applied to the major in Mathematics, Computer Science, and Systems Design without the recommendation of the Committee on Graduate Studies and approval of the Division Director and Dean.

5063 Methods in Calculus II
(3-0) 3 hours credit. Prerequisite: MAT 5053.
Areas of study include concepts in differential equations, calculus of variations, Lagrange multipliers and approximation techniques. This course cannot be applied to the major in Mathematics, Computer Science, and Systems Design without the recommendation of the Committee on Graduate Studies and approval of the Division Director and Dean.

5073 Methods of Statistics I
(3-0) 3 hours credit. Emphasis on methods and applications of statistics. Measure of location, variability and association, interpretation of categorical data, hypothesis testing. Use of package programs. Applications. This course cannot be applied to the major in Mathematics, Computer Science, and Systems Design without the recommendation of the Committee on Graduate Studies and approval of the Division Director and Dean.

5083 Methods of Statistics II
(3-0) 3 hours credit. Prerequisite: MAT 5073.
A continuation of MAT 5073 with emphasis on linear statistical models. Use of packaged programs. Applications. This course cannot be applied to the major in Mathematics, Computer Science, and Systems Design without the recommendation of the Committee on Graduate Studies and approval of the Division Director and Dean.

5153 Real Analysis I
(3-0) 3 hours credit. Prerequisite: MAT 2213; MAT 3213 recommended but not required.
A study of the foundations of analysis, rigorous treatment of continuity, differentiation and integration.

5163 Real Analysis II
(3-0) 3 hours credit. Prerequisite: MAT 5153.
Continuation of MAT 5153. Areas of study include sequences and series of functions, the Stone-Weierstrass theorem, special functions, differentiation and integration of functions of several variables.
5173 **Algebraic Structures**  
(3-0) 3 hours credit. Prerequisite: MAT 4233 or consent of instructor.  
Development of basic theory of algebraic structures. Areas of study include finite groups, isomorphism, direct sums, polynomial rings, algebraic numbers, number fields, unique factorization domain, prime ideals and Galois groups.

5203 **Theory of Functions of a Real Variable I**  
(3-0) 3 hours credit. Prerequisite: MAT 4223 or MAT 5163 or consent of instructor.  
Lebesgue measure and integration theory.

5213 **Theory of Functions of a Real Variable II**  
(3-0) 3 hours credit. Prerequisite: MAT 5203.  
Further development of Lebesgue measure and integration theory, metric space topology, and elementary Banach space theory.

5223 **Theory of Functions of a Complex Variable I**  
(3-0) 3 hours credit. Prerequisite: MAT 2213.  
Complex integration. Cauchy's theorem, calculus of residues, power series.

5233 **Theory of Functions of a Complex Variable II**  
(3-0) 3 hours credit. Prerequisite: MAT 5223.  
Infinite products, entire functions, Picard's theorem, Riemann mapping theorem, functions of several complex variables.

5243 **General Topology I**  
(3-0) 3 hours credit. Prerequisite: MAT 4273 or consent of instructor.  
Topological spaces, metric spaces, continua, plane topology.

5253 **General Topology II**  
(3-0) 3 hours credit. Prerequisite: MAT 5243.  
Areas of study include introductory algebraic topology, introduction to topology of manifolds.

5283 **Applied Algebra I**  
(3-0) 3 hours credit. Prerequisite: MAT 4233 or the equivalent.  
Areas of study include Boolean algebras, lattice theory and graph theory, finite fields, Lie groups, Lie algebras.

5273 **Applied Algebra II**  
(3-0) 3 hours credit. Prerequisite: MAT 5263 or the equivalent.  
Ideas and techniques of modern algebra applied to the area of computer science.

5283 **Linear Algebra and Matrix Theory I**  
(3-0) 3 hours credit. Prerequisite: MAT 2233 or the equivalent.  
A study of linear algebraic structures and algebraic properties of matrices.

5293 **Numerical Linear Algebra**  
(3-0) 3 hours credit. Prerequisite: MAT 2233 or consent of instructor.  
Study of stable numerical methods for the solution of linear systems of equations, least square problems and matrix eigenvalue problems. Applications in statistics and in the numerical solution of differential equations.

5313 **Abstract Algebraic Structures**  
(3-0) 3 hours credit. Prerequisite: MAT 4233 or MAT 5173.  
Algebraic structures. Areas of study include groups, rings, fields, Galois theory, ideal theory and representations of groups, module theory, homological algebra.

5333 **Hilbert Space**  
(3-0) 3 hours credit. Prerequisites: MAT 3213 and MAT 5283 or their equivalents.  
Hilbert space as a generalization of n dimensional Euclidean space, normed linear spaces and inner product spaces, completeness, bases, dimension, bounded linear operators.

5353 **Metric Geometry I**  
(3-0) 3 hours credit. Prerequisite: MAT 4263 or consent of instructor.  
A detailed study of the geometry of metric spaces which leads to metric characterization of Banach and Hilbert spaces.
5363  **Metric Geometry II**  
(3-0) 3 hours credit. Prerequisite: MAT 5353.  
Continuation of MAT 5353, including metric characterizations of the classical non-Euclidean spaces.

5413  **Bioassay**  
(3-0) 3 hours credit. Prerequisite: MAT 3523 or consent of instructor.  
Estimation of relative potency, quantitative or quantal responses, probits, normits, logits. Methods for analyzing data based on counts.

5423  **Applied Time Series Analysis**  
(3-0) 3 hours credit. Prerequisite: MAT 3523 or consent of instructor.  

5503  **Probability and Statistical Theory**  
(3-0) 3 hours credit. Prerequisite: MAT 3523 or consent of instructor.  
Axioms of probability, random variables and their distributions, mathematical techniques.

5513  **Mathematical Statistics and Inference**  
(3-0) 3 hours credit. Prerequisite: MAT 5503 or consent of instructor.  
Theory and applications of statistics. Sampling distributions, tests of hypotheses, point and interval estimation.

5523  **Applied Stochastic Processes**  
(3-0) 3 hours credit. Prerequisite: MAT 3523 or consent of instructor.  
Basic theory of stochastic processes and applications. Second order processes, Markov chains and processes, renewal theory, queueing theory.

5543  **Multivariate Statistical Analysis**  
(3-0) 3 hours credit. Prerequisite: MAT 3523 or consent of instructor.  

5553  **Non-Parametric Statistics**  
(3-0) 3 hours credit. Prerequisite: MAT 5513 or consent of instructor.  
Methods and theory of non-parametric statistics.

5583  **Linear Models I**  
(3-0) 3 hours credit. Prerequisite: MAT 5513 or consent of instructor.  
Theory, analysis and interpretation of regression and analysis of variance models. Use of packaged programs. Applications.

5573  **Linear Models II**  
(3-0) 3 hours credit. Prerequisite: MAT 5563 or consent of instructor.  
A continuation of MAT 5563.

5583  **Seminar in Statistics**  
(3-0) 3 hours credit. Prerequisites: MAT 3513 and 3523, or consent of instructor.  
Topics of interest in applied and categorical data, design of experiments, sampling techniques, sufficiency, estimation theory, topics in multivariate analysis, hypothesis testing theory.

5593  **Statistical Consulting**  
3 hours credit. Prerequisite: MAT 3523 or consent of instructor.  
Consulting apprenticeship under the faculty member responsible for this course. Statistical consulting is strongly recommended for students interested in statistics.

5603  **Numerical Analysis**  
(3-0) 3 hours credit. Prerequisite: MAT 3643 or consent of instructor.  
Emphasis on the mathematical analysis of numerical methods. Areas of study include solution of nonlinear equations and function optimization, approximation theory and numerical quadrature.
5613 Numerical Solution of Differential Equations  
(3-0) 3 hours credit. Prerequisite: MAT 5603 or the equivalent. 

5653 Differential Equations I  
(3-0) 3 hours credit. Prerequisite: MAT 2213. Solution of initial value ordinary differential equations, first order equations, higher order linear equations, series solutions, Laplace transforms, systems of first order equations, nonlinear differential equations and stability.

5663 Differential Equations II  
(3-0) 3 hours credit. Prerequisite: MAT 5653. Boundary value ordinary differential equations, partial differential equations, Fourier series and other orthogonal function expansions.

5673 Partial Differential Equations I  
(3-0) 3 hours credit. Prerequisite: MAT 5663 or MAT 3623 or consent of instructor. Classical theory of initial value and boundary value problems for partial differential equations.

5683 Partial Differential Equations II  
(3-0) 3 hours credit. Prerequisite: MAT 5673. Modern topics in partial differential equations.

5813 Methods of Applied Mathematics I  
(3-0) 3 hours credit. Prerequisite: MAT 3613 or MAT 5653 or consent of instructor. Areas of study include Fourier analysis, Laplace transforms, curvilinear coordinates, applications of complex variables, conformal mappings.

5823 Methods of Applied Mathematics II  
(3-0) 3 hours credit. Prerequisite: MAT 3613 or MAT 5653 or consent of instructor. MAT 3623 or MAT 5663 recommended but not required. Areas of study include tensor and vector analysis. Calculus of variations. Equations of mathematical physics.

5833 Perturbation Theory in Applied Mathematics  
(3-0) 3 hours credit. Prerequisite: MAT 3613 or MAT 5653 or consent of instructor. Perturbation theory, asymptotic analysis and boundary layer expansions.

5843 Mathematical Modeling of Physical Systems  
(3-0) 3 hours credit. Prerequisite: MAT 3613 or MAT 5653 or consent of instructor. Deterministic mathematical modeling with examples from engineering and the life and physical sciences. Stability considerations.

5853 Mathematical Methods of Continuum Mechanics  
(3-0) 3 hours credit. Prerequisite: MAT 3613 or MAT 5653 or consent of instructor. Basic concepts of elasticity, fluid flow and lubrication theory with applications to physical and biological systems.

6951-3 Independent Study  
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor, the student's Graduate Advisor, and the Division Director and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

6971-3 Special Problems  
1 to 3 hours credit. Prerequisite: Consent of instructor. An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Problems courses may be repeated for credit when topics vary, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.
6983 Master's Thesis
3 hours credit. Prerequisites: Admission to candidacy and permission of the Graduate Advisor and thesis director. Thesis research and preparation. May be repeated for credit, but not more than 6 hours will apply to the Master's degree. Credit will be awarded upon completion of the thesis. Enrollment is required each term in which the thesis is in progress.

COURSE DESCRIPTIONS
COMPUTER SCIENCE
(CS)

5003 Computers and Human Relations
(3-0) 3 hours credit.
For teachers of all disciplines who must acquire a basic course in computers so as to be able to put into perspective the issues and problems associated with computers; society; and the various disciplines. This course cannot be applied to the major in Mathematics, Computer Science, and Systems Design without the recommendation of the Committee on Graduate Studies and approval of the Division Director and Dean.

5023 Computers and Mathematics for Teachers
(3-0) 3 hours credit.
A course, for inservice mathematics teachers, which is a study of how mathematics may be structured and developed through computer oriented algorithms. This course cannot be applied to the major in Mathematics, Computer Science, and Systems Design without the recommendation of the Committee on Graduate Studies and approval of the Division Director and Dean.

5053 Concepts of Computing Systems I
(3-0) 3 hours credit. Prerequisite: CS 1713 or consent of instructor. Computer programming using a high level language, algorithm design, interfacing and assembly language. This course is designed for entering graduate students in Computer Science and Systems Design who have not had the equivalent of CS 1723, CS 2743 and CS 3713.

5063 Concepts of Computing Systems II
(3-0) 3 hours credit. Prerequisite: CS 5053 or consent of instructor. Programming methodology for processing; structuring data, job control language, utility programs, data storage, retrieval, data structures, data access application. Intermediate high level language and assembly language programming. This course is designed for entering graduate students in Computer Science and Systems Design who have not had the equivalent of CS 2734, CS 3723 and CS 3783.

5131 Job Control Language
(1-0) 1 hour credit. Prerequisite: Graduate standing. Job control language required to effectively utilize computing systems. This course cannot be applied to the major in Mathematics, Computer Science, and Systems Design without the recommendation of the Committee on Graduate Studies and approval of the Division Director and Dean.

5141 COBOL Programming I
(1-0) 1 hour credit. Prerequisite: Graduate standing. An overview of file structure and design to enable students to develop an understanding of COBOL's main features. This course cannot be applied to the major in Mathematics, Computer Science, and Systems Design without the recommendation of the Committee on Graduate Studies and approval of the Division Director and Dean.

5151 COBOL Programming II
(1-0) 1 hour credit. Prerequisite: CS 5141 or consent of instructor. Program organization and elements will be covered. Assignments will illustrate COBOL's ability to manipulate different types of files. This course cannot be ap-
plied to the major in Mathematics, Computer Science, and Systems Design without the recommendation of the Committee on Graduate Studies and approval of the Division Director and Dean.

5161 PL/I Programming I  
(1-0) 1 hour credit. Prerequisite: Graduate standing.  
An introduction to PL/I programming for students with some computer knowledge but who have never learned a programming language. The course cannot be applied to the major in Mathematics, Computer Science, and Systems Design without the recommendation of the Committee on Graduate Studies and approval of the Division Director and Dean.

5171 PL/I Programming II  
(1-0) 1 hour credit. Prerequisite: CS 5161 or consent of instructor.  
An intermediate level course in PL/I for students who know another programming language or who have some experience in a high level computer language. This course cannot be applied to the major in Mathematics, Computer Science, and Systems Design without the recommendation of the Committee on Graduate Studies and approval of the Division Director and Dean.

5181 FORTRAN Programming I  
(1-0) 1 hour credit. Prerequisite: Graduate standing.  
An introduction to FORTRAN programming for persons with some computer knowledge but who have never learned a programming language. This course cannot be applied to the major in Mathematics, Computer Science, and Systems Design without the recommendation of the Committee on Graduate Studies and approval of the Division Director and Dean.

5191 FORTRAN Programming II  
(1-0) 1 hour credit. Prerequisite: CS 5181 or consent of instructor.  
An intermediate level course in FORTRAN for students who know another language or have some FORTRAN experience. This course cannot be applied to the major in Mathematics, Computer Science, and Systems Design without the recommendation of the Committee on Graduate Studies and approval of the Division Director and Dean.

5233 Artificial Intelligence and Cognitive Science, an Appreciation  
(3-0) 3 hours credit. Prerequisite: CS 5063 or consent of instructor.  
This course is a study of topics in Artificial Intelligence such as state space, backtracking, heuristic search, game playing, automatic theorem proving, and pattern recognition; it is also a study of topics in cognitive science such as machine learning, concepts formation, representing knowledge and natural language understanding.

5303 Structure of Programming Languages I  
(3-0) 3 hours credit. Prerequisite: CS 5063 or consent of instructor.  
Study of the features of a variety of current programming languages including list processing language and compiler design.

5313 Structure of Programming Languages II  
(2-2) 3 hours credit. Prerequisite: CS 5303 or the equivalent.  
An introduction to the design and implementation of assemblers, compilers, interpreters and translator writing systems.

5353 Formal Grammars and Programming Languages  
(3-0) 3 hours credit. Prerequisite: CS 5313 or consent of instructor.  
Models of computation, formal models of syntax and semantics for programming languages.

5413 File System Design  
(3-0) 3 hours credit. Prerequisite: CS 5063 or consent of instructor.  
System design, data base design, management system analysis and management techniques.
5443 Information Retrieval Systems
(3-0) 3 hours credit. Prerequisite: CS 5413.
Design and implementation of information retrieval in data base management systems and file systems.

5463 Data Base Management Query Languages
(3-0) 3 hours credit. Prerequisite: CS 5513 and CS 5413 or the equivalent.
This course consists of the study of a variety of data base query languages, their relation to natural languages and methods or natural language to logical and computer language translation.

5513 Operating Systems and Architecture I
(3-0) 3 hours credit. Prerequisite: CS 4753 or consent of instructor.
This is the first semester of a two-semester integrated course on operating systems and computer architecture which covers the structure, function and management of processors, processes, memories, files and I/O devices.

5523 Operating Systems and Architecture II
(3-0) 3 hours credit. Prerequisite: CS 5513
Areas of study include multiprocessor systems, stack processors, networks and others.

5553 Performance Evaluation and Measurement of Information and Computing Systems
(3-0) 3 hours credit. Prerequisite: CS 5523, CS 5513 or consent of instructor.
This course consists of (1) a study of the major purposes for evaluating and measuring the hardware and software performance of computing systems, including selection, evaluation, performance projection and performance monitoring, and (2) a study of techniques which may be used for performance evaluation and projection including benchmarks, traces, synthetics workloads, analytic modeling and simulation using simulation languages such as GPSS and SIMSCRIPT.

6133 Technology of Information Systems Administration: Design and Implementation
(3-0) 3 hours credit. Prerequisite: CS 5523.
This course focuses on the issues and management techniques of administering a computer information systems activity. The course explores both the technological and management tools which can help computer information systems managers to optimize information systems performance.

6951-3 Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor, the student's Graduate Advisor, and the Division Director and Dean of the College in which the course is offered.
Independent reading, research, discussion, and/or writing under the direction of a faculty member. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

6971-3 Special Problems
1 to 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Problems courses may be repeated for credit when the topics vary but not more than 6 hours, regardless of discipline, will apply to a Master's degree.

6983 Master's Thesis
3 hours credit. Prerequisites: Admission to candidacy and permission of the Graduate Advisor and thesis director.
Thesis research and preparation. May be repeated for credit, but not more than 6 hours will apply to the Master's degree. Credit will be awarded upon completion of the thesis. Enrollment is required each term in which the thesis is in progress.
COURSE DESCRIPTIONS
SYSTEMS DESIGN (SD)

5203 Mathematical Methods for Process Control
(2-2) 3 hours credit. Prerequisite: MAT 2213 or consent of instructor.
Applications to data acquisition and process control of Fourier series and Fourier transforms, the fast Fourier transform, digital filtering, parameter estimation techniques.

5703 Microprogramming I
(3-0) 3 hours credit. Prerequisite: SD 3843.
Computer design philosophies based on microprogrammed architecture. Microprogram control organization, design of microprograms to implement the full instruction set of a typical minicomputer.

5713 Microprogramming II
(3-0) 3 hours credit. Prerequisite: SD 5703.
A continuation of SD 5703. Topics include simulation and emulation of processors; microcode optimization.

5723 Microcomputer Systems I
(2-2) 3 hours credit. Prerequisites: SD 4813 and SD 4853.
An in-depth study of microcomputers and related LSI devices, to include most major commercially available devices. Areas of study include the use of microcomputers for logic design, particularly I/O controllers and for process control applications.

5733 Microcomputer Systems II
(2-2) 3 hours credit. Prerequisite: SD 5723.
A continuation of SD 5723. Areas of study include the design of systems using multiple ROM/RAM LSI devices and multiprocessor systems.

5743 Input-Output Subsystems for Minicomputers
(2-2) 3 hours credit. Prerequisite: SD 3843.
An in-depth study of the organization and design of input-output controllers such as for discs, printers, teleprocessing; special controllers for process control applications.

6503 Operations Analysis in the Health Sciences
(3-0) 3 hours credit. Prerequisite: CS 1723 or consent of instructor.
An introduction to systems analysis and operations research in the health sciences. Applications of deterministic and probabilistic models for decision making. Problems and methods in the design and evaluation of health care programs.

6603 Optimization Techniques in Operations Research
(3-0) 3 hours credit. Prerequisite: SD 4623 or consent of instructor.
Analysis and application of optimization techniques in operations research. Emphasis on linear programming, non-linear programming, integer programming and dynamic programming.

6613 Probabilistic Models in Operations Research
(3-0) 3 hours credit. Prerequisite: MAT 3513 or consent of instructor.
Analysis and application of basic probabilistic models in operations research. Queueing theory, inventory theory, Markov decision processes, reliability theory, decision analysis.

6633 Simulation Techniques
(3-0) 3 hours credit. Prerequisites: CS 1723 and MAT 3513, or consent of instructor.

6951-3 Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor, the student's Graduate Advisor, and the Division Direc-
tor and Dean of the College in which the course is offered. Independent reading, research, discussion, and/or writing under the direction of a faculty member. For students needing specialized work not normally or not often available as part of the regular course offerings. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

6971-3 Special Problems
1 to 3 hours credit. Prerequisite: Consent of instructor. An organized course offering specialized study not normally or not often available as part of the regular course offerings. Special Problems courses may be repeated for credit when the topics vary but not more than 6 hours, regardless of discipline, will apply to a Master's degree.

6983 Master's Thesis
3 hours credit. Prerequisites: Admission to candidacy and permission of the Graduate Advisor and thesis director. Thesis research and preparation. May be repeated for credit, but not more than 6 hours will apply to the Master's degree. Credit will be awarded upon completion of the thesis. Enrollment is required each term in which the thesis is in progress.
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SAN ANTONIO AREA MAP
INFORMATION DIRECTORY

Requests for information should be directed to the offices shown below. The University's address is: The University of Texas at San Antonio, San Antonio, Texas 78285. The main telephone number of UT San Antonio is (512) 691-4011. Offices and classrooms of the Division of Continuing Education are located in the Institute of Texan Cultures on HemisFair Plaza in downtown San Antonio. The telephone number for the Division is (512) 227-9147.

Academic Advisement
- Declared majors: College Deans
- Undeclared majors: Director of Community and Student Affairs

Academic Degree Programs and Courses: College Deans

Admission
- Undergraduate and Graduate: Director of Admissions

Career Planning: Director of Career Planning and Placement Center

Changes in Enrollment: Registrar

Continuing Education: Dean of Continuing Education

Credit by Examination: Testing Center

Degree Application: Registrar

Financial Aid, Loans, or Scholarships: Director of Student Financial Aid

Financial Matters: Business Manager

General Information: Director of Admissions

Handicapped Students: Director of Community and Student Affairs

Health Services: Student Health Center

Parking: University Police

Placement Service
- Teacher: Director, Office of Teacher Certification and Placement
- Non-Teacher: Director of Career Planning and Placement Center

Psychological Counseling: Director of Counseling Center

Recreational Activities: Director of Athletics

Refunds: Business Manager

Registration: Registrar

Residency: Registrar

Student Employment: Director of Career Planning and Placement Center

Student Services: Dean of Students

Teacher Certification Program: Director, Office of Teacher Certification and Placement

Transfer of Credit: Registrar

Transcripts: Registrar

Veterans' Affairs: Registrar

Withdrawal from University: Registrar