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**GRADUATE**

**FALL SEMESTER, 1991**

May 20-July 12  Touch Tone Telephone Registration for Fall Semester, 1991
June 1  Saturday. Deadline for Foreign Student admission applications for Fall 1991.
July 1  Monday. Deadline for applying for admission and providing supporting documents for Fall 1991.
August 20  Tuesday. New Student Orientation.
August 21  Wednesday. New Student Orientation and New and Returning Former Student Registration.
August 22  Thursday. Late Registration.
August 26  Monday. Classes begin. Continuing Late Registration.
August 29  Thursday. Last day of Late Registration.
August 30  Friday. Last day to withdraw and receive an 80% refund of tuition and fees. Last day to add a class.
September 2  Monday. Labor Day Holiday.
September 9  Monday. Last day to withdraw and receive a 70% refund of tuition and fees.
September 11  Wednesday. Last day to drop or withdraw without a grade; drop a class and receive a refund. Census Date.
September 13  Friday. Last day to request excused absence for Religious Holy Day observance.
September 16  Monday. Last day for students to withdraw and receive a 50% refund of tuition and fees.
September 23  Monday. Last day to withdraw and receive a 25% refund of tuition and fees.
October 1  Tuesday. Deadline for Fall 1991 degree candidates to apply for graduation.
October 15  Tuesday. Foreign Student Admission application deadline for Spring Semester, 1992. Spring 1992 deadline for filing Petition of Reinstatement for students who have been academically dismissed.
October 25  Friday. Last day for students to drop an individual course or withdraw from the University and receive an automatic "W".
November 28-30  Thursday-Saturday. Thanksgiving Holidays.
December 2  Monday. Last day to withdraw from The University.
December 9-14  Monday-Saturday. Final Examinations.
December 14  Saturday. Semester closes.

**SPRING SEMESTER, 1992**

October 15  Tuesday. Foreign Student admission application deadline for Spring Semester 1992.
December 1  Tuesday. New Student Orientation.
January 7  Wednesday. New and Returning Former Student Registration.
January 9  Thursday. Late Registration.
January 13  Monday. Classes begin. Continuing Late Registration.

*For a more detailed calendar of semester events, see the schedule of classes for each semester.*
January 14
Tuesday. Last day of Late Registration.

January 17
Friday. Last day to withdraw and receive an 80% refund of tuition and fees. Last day to add a class.

January 24
Friday. Last day to withdraw and receive a 70% refund of tuition and fees.

January 28
Tuesday. Last day to drop or withdraw without a grade; drop a class and receive a refund. Census Date.

January 31
Friday. Last day for students to withdraw and receive a 50% refund of tuition and fees. Last day to request excused absence for Religious Holy Day observance.

February 1
Saturday. Deadline for Spring 1992 degree candidates to apply for graduation.

February 7
Friday. Last day to withdraw and receive a 25% refund of tuition and fees.

March 1

March 13
Friday. Last day for students to drop an individual course or withdraw and receive an automatic "W".

March 15
Sunday. Summer 1992 deadline for filing Petition of Reinstatement for students who have been academically dismissed.

March 16-21
Monday-Saturday. Spring Break.

April 27
Monday. Last day for all students to withdraw from The University.

May 4-9
Monday-Saturday. Final Examinations.

May 9
Saturday. Semester closes.

*SUMMER SESSION, 1992*

March 1

March 16-May 1
Touch Tone Telephone Registration for Summer Sessions I and II, 1992.

May 1

May 26
Tuesday. New Student Orientation.

May 27

May 28
Thursday. Late registration for Continuing Students.

June 1
Monday. Classes begin for Summer Session I. Continuing Late Registration.

June 2
Tuesday. Last day of Late Registration. Last day to add a class.

June 3
Wednesday. Last day to withdraw from courses in Summer Session I and receive an 80% refund of tuition and fees.

June 4
Thursday. Last day in Summer Session I to: Drop or withdraw without a grade; drop and receive a refund; Census Date.

June 8
Monday. Last day for students enrolled in Summer Session I to withdraw and receive a 50% refund of tuition and fees.

June 15
Monday. Fall 1992 deadline for filing Petition for Reinstatement for students who have been academically dismissed.

*For a more detailed calendar of semester events, see the schedule of classes for each semester.*
June 19 Friday. Last day for students enrolled in the first five-week term to drop an individual course. Last day to withdraw and receive an automatic "W".

June 26 Friday. Last day for students enrolled in the first five-week term to withdraw from The University.

July 1 Wednesday. Last day for Summer 1992 degree candidates to apply for graduation.

July 2-3 Thursday-Friday. Final examinations for courses in the first five-week term.

July 3 Friday. Close of the first five-week term.

July 6 Monday. Classes begin for courses in Summer Session II. Late Registration for Summer II.

July 7 Tuesday. Last day to late register for Summer Session II. Last day to add a Summer II class.

July 8 Wednesday. Last day to withdraw from courses in Summer Session II and receive an 80% refund of tuition and fees.

July 9 Thursday. Last day in Summer Session II to: Drop or withdraw without a grade; drop and receive a refund. Census Date.

July 10 Friday. Last day for students enrolled in ten-week courses to drop an individual course. Last day to withdraw and receive an automatic "W".

July 13 Monday. Last day for students enrolled in Summer Session II to withdraw and receive a 50% refund of tuition and fees.

July 24 Friday. Last day for students enrolled in the second five-week term to drop an individual course. Last day to withdraw and receive an automatic "W".

July 31 Friday. Last day for all students enrolled in Summer Session II and the ten-week term to withdraw from The University.

August 6-7 Thursday-Friday. Final examinations for courses in the ten-week and second five-week terms.


*FALL SEMESTER 1992*

May 25-July 10 Touch Tone Telephone Registration for Fall Semester, 1992.

June 1 Monday. Deadline for Foreign Student admission applicants for Fall Semester, 1992.

July 1 Wednesday. Deadline for applying for admission and providing supporting documents for Fall 1992.

August 18 Tuesday. New Student Orientation.

August 19 Wednesday. New Student Orientation and New and Returning Former Student Registration.

August 20 Thursday. Late Registration.

August 24 Monday. Classes begin. Continuing Late Registration.

August 27 Thursday. Last day of Late Registration.

August 28 Friday. Last day to withdraw and receive an 80% refund of tuition and fees. Last day to add a class.

September 4 Friday. Last day to withdraw and receive a 70% refund of tuition and fees.

September 7 Monday. Labor Day Holiday.

September 9 Wednesday. Last day to: Drop or withdraw without a grade; drop a class and receive a refund. Census Date.

*For a more detailed calendar of semester events, see the schedule of classes for each semester.
September 11  Friday. Last day to request excused absence for Religious Holy Day observance.
September 14  Monday. Last day for students to withdraw and receive a 50% refund of tuition and fees.
September 21  Monday. Last day to withdraw and receive a 25% refund of tuition and fees.
October 1     Thursday. Deadline for Fall 1992 degree candidates to apply for graduation.
October 15    Thursday. Foreign Student admission application deadline for Spring Semester. Spring 1992 deadline for filing Petition of Reinstatement for students who have been academically dismissed.
October 23    Friday. Last day for students to drop an individual course or withdraw from The University and receive an automatic "W".
November 26-28 Monday. Last day to withdraw from The University.
November 30   Monday-Saturday. Final Examinations.
December 7-12 Monday-Saturday. Final Examinations.
December 12   Saturday. Semester closes.

*SPRING SEMESTER, 1993*

October 15  Thursday. Foreign Student admission application deadline for Spring Semester, 1993.
October 26-  Touch Tone Telephone Registration for Spring Semester, 1993.
December 4  Tuesday. Deadline for applying for admission and providing supporting documents for Spring 1993.
December 1  Tuesday. New Student Orientation.
January 5   Wednesday. New and Returning Former Student Registration.
January 6   Thursday. Late Registration.
January 7   Monday. Classes begin. Continuing Late Registration.
January 11  Tuesday. Last day of Late Registration.
January 12  Friday. Last day to withdraw and receive an 80% refund of tuition and fees. Last day to add a class.
January 15  Friday. Last day to withdraw and receive a 70% refund of tuition and fees.
January 22  Tuesday. Last day to: Drop or withdraw without a grade; drop a class and receive a refund. Census Date.
January 26  Friday. Last day for students to withdraw and receive a 50% refund of tuition and fees. Last day to request excused absences for Religious Holy Day observance.
January 29  Monday. Deadline for Spring 1993 degree candidates to apply for graduation.
February 1  Friday. Last day to withdraw and receive a 25% refund of tuition and fees.
February 5  Monday. Foreign Student admission application deadline for Summer 1993.
March 1     Friday. Last day for students to drop an individual course or withdraw and receive an automatic "W".
March 12    Monday. Summer 1993 deadline for filing Petition for Reinstatement for students who have been academically dismissed.
March 15    Monday-Saturday. Spring Break.
March 15-20  Monday. Last day for all students to withdraw from The University.
April 26    Monday. Last day to request excused absence for Religious Holy Day observance.

*For a more detailed calendar of semester events, see the schedule of classes for each semester.*
May 3-8
May 8

Monday-Saturday. Final Examinations.
Saturday. Semester closes.

*SUMMER SESSION 1993*

March 1
Monday. Foreign Student admission application deadline for Summer Session 1993.

March 15-
April 30
Touch Tone Telephone Registration for Summer Sessions I and II, 1993.

May 1
Saturday. Deadline for applying for admission and providing supporting documents for Summer 1993.

May 25
Tuesday. New Student Orientation.

May 26

May 27
Thursday. Late Registration for Continuing Students.

June 7
Monday. Classes begin for Summer Session I. Continuing Late Registration.

June 8
Tuesday. Last day of Late Registration. Last day to add a class.

June 9
Wednesday. Last day to withdraw from courses in Summer Session I and receive an 80% refund of tuition and fees.

June 10
Thursday. Last day in Summer Session I to: Drop or withdraw without a grade; drop and receive a refund. Census Date.

June 14
Monday. Last day for students enrolled in Summer Session I to withdraw and receive a 50% refund of tuition and fees.

June 15
Tuesday. Fall 1993 deadline for filing Petition for Reinstatement for students who have been academically dismissed.

June 25
Friday. Last day for students enrolled in the first five-week term to drop an individual course. Last day to withdraw and receive an automatic "W".

July 1
Thursday. Last day for Summer 1993 degree candidates to apply for graduation.

July 2
Friday. Last day for students enrolled in the first five-week term to withdraw from The University.

July 8-9
Thursday-Friday. Final examinations for courses in the first five-week term.

July 9
Friday. Close of the first five-week term.

July 12
Monday. Classes begin for courses in Summer Session II. Late Registration for Summer II.

July 13
Tuesday. Last day to late register for Summer Session II. Last day to add a Summer II class.

July 14
Wednesday. Last day to withdraw from courses in Summer Session II and receive an 80% refund of tuition and fees.

July 15
Thursday. Last day in Summer Session II to: Drop or withdraw without a grade; drop and receive a refund. Census Date.

July 16
Friday. Last day for students enrolled in ten-week courses to drop an individual course. Last day to withdraw and receive an automatic "W".

July 19
Monday. Last day for students enrolled in Summer Session II to withdraw and receive a 50% refund of tuition and fees.

July 30
Friday. Last day for students enrolled in the second five-week term to drop an individual course. Last day to withdraw and receive an automatic "W".

*For a more detailed calendar of semester events, see the schedule of classes for each semester.*
<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>August 6</td>
<td>Friday. Last day for all students enrolled in Summer Session II and the ten-week term to withdraw from The University.</td>
</tr>
<tr>
<td>August 12-13</td>
<td>Thursday-Friday. Final examinations for courses in the ten-week and second five-week terms.</td>
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HISTORY

The University of Texas at San Antonio is a comprehensive state university created with a mandate from the 61st Legislature on June 5, 1969, to be a university of the first class offering bachelor’s, master’s and doctoral degrees, “as are customarily offered at leading American universities.” The University admitted its first class in June 1973, consisting of 671 graduate students. Upper-division undergraduate students were accepted in September 1975, with freshmen and sophomore students admitted in June 1976. The first UTSA commencement was held in August 1974.

The University moved rapidly to establish quality academic programs across the curriculum. UTSA received full accreditation of its academic programs in December 1976 by the Southern Association of Colleges and Schools. UTSA’s first endowed professorship, the Blumberg Professorship in Life Sciences, was established in 1981, to support an expanded teaching and research initiative in the life sciences. The first endowed chair, the Elmo James Burke, Jr. Chair in Management of Building/Development, was established in 1985 in the College of Business to support an innovative cooperative degree program in architecture and management. The University initiated an Honors Program in September 1985 to serve the University’s most academically promising students.

To meet the needs of San Antonio and South Texas and to recognize its unique strengths, The University now has 62 degree programs. Undergraduate engineering degrees in civil, electrical and mechanical engineering were added in September 1982, and master’s degrees in those fields followed in January 1990. A master’s degree in Biotechnology, added in 1985, became the only program in the state of its kind. A cooperative doctoral degree in Educational Leadership with UT Austin was initiated in January 1989.

UTSA’s faculty has grown in both numbers and quality. Faculty now total 622. Ninety-nine percent of the tenured and tenure-track faculty hold the doctorate or terminal degree in their fields. Since the establishment of UTSA, 32 faculty have competed successfully for prestigious Fulbright Fellowships to teach and conduct research in a foreign country. Research activity of the faculty now places UTSA in the top 25 percent of public universities in the state in research expenditures.

The student body has also grown rapidly, as has campus student life. UTSA’s student enrollment reached 15,489 in Fall 1990, making UTSA one of the fastest growing universities in the state. The University began intercollegiate athletics programs in 1981, with Division I competition in a number of sports for both men and women. The addition to the campus of a University Center and on-campus student housing in 1986 brought a growing vitality to the campus, with an increased scope of student organizations and activities. The number of alumni grew to over 20,000 in 1990, with corresponding growth in alumni activity in support of the University. The UTSA Alumni Association was formed in 1978, with one of its major projects each year being the annual UTSA Homecoming.

Construction of the first campus buildings was completed in September 1975. Space on the campus now totals over 1.2 million square feet, with total investment in physical plant and equipment totaling over $123 million. Phase I of the Engineering and Biosciences Building was occupied in September 1990.

UTSA celebrated its 20th anniversary in 1989.

MISSION

UT San Antonio, a comprehensive public metropolitan university, is committed to freedom of inquiry and the creation of an environment in which people can teach, discover, learn and enrich their individual and societal lives. Through its instructional, research and public service programs, UT San Antonio seeks to carry out its mission, to serve the needs of the multicultural population of San Antonio and the South Texas region, emphasizing programs that contribute to the technological, economic and cultural development of the city and
region. UT San Antonio also serves the broader geographical communities of the state, the
nation, and the world with selected programs reflecting specialized University strengths.

UT San Antonio, offering a wide range of academic degree programs leading to the
bachelor's and master's degrees and selected doctoral programs (upon approval), strives
to guide students toward achieving knowledge and skills required to succeed in their
chosen fields. In addition, The University provides the opportunity for all graduate students
to develop those characteristics of a truly educated person.

UT San Antonio provides access to its various degree programs to a broad constituency
and maintains rigorous academic standards in requirements for successful completion of
its programs. Through flexible scheduling, varied course offerings and student support
services, The University encourages attendance by both traditional and nontraditional
students.

UT San Antonio emphasizes excellent teaching, research and creative activities, and
scholarship. To this end, The University recruits and retains faculty who exemplify this
balance. At the same time, it encourages faculty to engage in public service activities
appropriate to their academic fields. UT San Antonio encourages and facilitates multidis-
ciplinary instructional, research and public service efforts, where appropriate, through its
administrative structure, degree programs and personnel policies.

Through its broad research efforts, UT San Antonio both creates new knowledge through
its basic research programs and applies that knowledge to today's problems through its
applied research activities. UT San Antonio seeks to facilitate the transfer of research
findings into the work environment through continuing education and graduate level pro-
grams for maintaining and upgrading specialized skills of professionals employed in San
Antonio and the South Texas region.

UT San Antonio seeks to enrich the cultural environment not only of The University but also
of the community through its fine arts and humanities programming.

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 Chancellor of The Univer-
sity 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 Planning, a Vice President for
Business Affairs, a Vice President for Student Affairs, A Vice President for University
Advancement, and a Vice President for Downtown Operations and Executive Director of
the Institute of Texan Cultures.

The Vice President for Academic Affairs provides the President with advice and counsel on
academic matters, acts as a liaison between the President's Office and faculty committees
concerned with academic affairs, and has direct responsibility for administering the aca-
demic programs of the University. The Vice President for Academic Affairs is the officer
responsible for coordination of graduate education, acts as a Graduate Dean and chairs
the Council on Graduate Education. The Academic Deans, the Director of Admissions and
Registrar, the Director of Libraries, the Director of the Hispanic Research Center, and the
Director of Instructional Resources report to the Vice President for Academic Affairs. The
Vice President for Administration and Planning provides the President with advice and
counsel on the general administrative services of The University and acts as liaison
between the President's Office and all University standing committees. This officer is responsible for affirmative action, strategic planning, and the Office of Institutional Analysis. 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, Computing Resources, University Police, General Services, and the Business Manager's office. This officer is also responsible for budget preparation and analysis, contract and grant administration, and personnel administration. The Vice President for Student Affairs is responsible for overseeing student affairs and for providing advice to top administrators on all aspects of student activities at The University of Texas at San Antonio. The Special Assistant Vice President, Assistant Vice President for Student Development, Assistant Vice President for Student Services, Assistant Vice President for Student Life, and the Director of Student Financial Aid report to the Vice President for Student Affairs. The Vice President for University Advancement is responsible for all areas of advancement, including development, communications and alumni affairs, within the academic colleges and coordination with The University of Texas Institute of Texan Cultures. The Director of Development and Director of Communications report to the Vice President for University Advancement. The Vice President for Downtown Operations has responsibility for stimulating stronger academic linkages to programs at The University of Texas at San Antonio. This officer will assist in the development of plans and will coordinate expanded University operations at HemisFair Plaza.

ACCREDITATION

The University of Texas at San Antonio is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award bachelor's and master's degrees.

THE UTSA LIBRARY

The UTSA Library is housed in the John Peace Library Building, named in 1974 in honor of the late former Chairman of The University of Texas System Board of Regents. The library has developed rapidly in the 15 years since it initially opened its doors in temporary quarters to serve a few pioneering faculty and students. As of Fall 1990, the collections of the library include 431,740 cataloged volumes; 93,275 United States, Texas, and San Antonio government publications; and 404,460 volume equivalents held in microform. The library has approximately 2,550 subscriptions to periodicals and receives as a designated federal and state depository a wide variety of documents. All materials have been selected to support the teaching and research missions of The University.

The UTSA special collections and rare books focus on Western Americana and on Texana. Notable among the special collections are the John Peace Collection of books and documents in the period of the Texas Republic and the Kathryn Stoner O'Conner Collection of early Texas and Mexican materials on permanent deposit in the Special Collections Department from the Sons of the Republic of Texas.

The public services staff includes professional librarians with subject expertise who assist students and faculty in using the library's collections. On-line catalog and on-line or on-disk computer searching are available as is a full range of interlibrary loan services. Circulation, acquisitions, and cataloging procedures are highly automated. The library is a member of OCLC, a national cataloging service. It is also a member of the Council on Research and Academic Libraries (CORAL), a library network which has as its goal the developing and strengthening of information resources and services in the greater San Antonio area.

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 UTSA Library also has full audiovisual capability, music listening facilities, a curriculum materials center, and a computer
laboratory. Carrels, group study rooms, lounges, and faculty studies are conveniently located through the building to provide ideal study conditions. Copiers for paper and microfilm materials are available to library users.¹

INSTITUTE FOR THE ARTS AND HUMANITIES

The Institute for the Arts and Humanities is located in the College of Fine Arts and Humanities. The Institute activities encompass the fine arts (visual and performing arts) and humanities (art history, architectural history, art criticism, literature, and foreign languages). The goals of the Institute include providing assistance to faculty, students, and other persons interested in pursuing research and further studies, and making available general information on the arts of Western Europe and the Americas.

The Institute fosters professional research in the fine arts and humanities. It provides opportunities for faculty and students in the College to continue their research and to serve the community of scholars within and outside The University.

RESEARCH CENTER FOR THE VISUAL ARTS

The activities of the Research Center for the Visual Arts encompass the visual arts, art and architectural history, and art criticism. The Center will have a primary focus on historical disciplines with special reference to the study of Iberian and Interamerican arts.

INSTITUTE FOR STUDIES IN BUSINESS

The Institute for Studies in Business is the research center of the College of Business. The major objective of the Institute is to offer the opportunity for students and faculty of The University to have an adequate environment for problem solving and community-related research. While the Institute 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.

The focus of activity at the Institute 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 human resource utilization.

INSTITUTE FOR RESEARCH IN SCIENCES AND ENGINEERING

The Institute for Research in Sciences and Engineering (IRSE) addresses the research functions of the College of Sciences and Engineering. The major goals of IRSE are to offer opportunities for expanded research in the science and engineering fields for faculty and graduate students, to nurture interdisciplinary, mission-oriented team research projects, and to provide an educational opportunity whereby individual skills can be developed to fill employer's needs for scientific, engineering and technical fields. Although IRSE is a part of the College of Sciences and Engineering, it interacts with the faculty of the other Colleges and with the local research community through the Southwest Research Consortium.

IRSE serves as a focal point for science and engineering activities at The University by providing contract and grant management and by furnishing services and research support for faculty and students. Exceptional students have an opportunity to gain valuable

¹Additional information on the UTSA Library and on its borrowing regulations may be obtained in the library.
work experience through the various research and educational programs supported by IRSE.

IRSE seeks to support the individual involved in research, as well as to nourish team research for projects requiring the strength of individuals drawn from many disciplines. Individual research projects are active in all areas of the College, ranging from the life sciences, chemistry, computer science and systems design, physics, civil engineering, electrical engineering, and mechanical engineering to geology.

CENTER FOR HUMAN ORIENTED SCIENCES AND ENGINEERING

Because of the strength of the team effort addressing the application of the sciences and engineering to problems relating to human characteristics and requirements involved in complex systems including both physical and social aspects of the environment, the Center for Human Oriented Sciences and Engineering (CHOSE) has been formed within IRSE. CHOSE emphasizes studies in applied mathematics and statistics, information and computer science, cognitive science including artificial intelligence and computer-aided instruction, and human physiology and performance.

Team efforts have been conducted in the past in diverse areas involving pharmacological chemistry, health related issues, and energy and environmental studies. When the effort is of appropriate magnitude, centers such as CHOSE will be formed as a mechanism for enhancing the research effort.

CENTER FOR GROUND-WATER RESEARCH AND TECHNOLOGY

The Center for Ground-Water Research and Technology (in the College of Sciences and Engineering) was established in January 1987 as a research facility which is structured and managed to address research activities in the general area of the hydrologic sciences and specifically in the various scientific disciplines involved in ground-water studies. The Center for Ground-Water Research and Technology at UTSA has principally directed its research efforts in the hydrogeology of carbonate aquifer systems with special emphasis on the Cow Creek, Glen Rose, and Edwards aquifers in south central Texas. Current research areas include: stable isotope geochemistry, seismic geophysical studies, mathematical modeling of aquifer flow systems, well hydraulics, structural geologic controls on ground-water movement, contaminant transport and attenuation studies, and porosity geometry determinations.

INSTITUTE FOR RESEARCH IN SOCIAL AND BEHAVIORAL SCIENCES

The Institute for Research in Social and Behavioral Sciences coordinates the activities of two Centers and two Offices located in the College of Social and Behavioral Sciences. The Centers and Offices are designed to promote faculty and student research and to assist local agencies and citizens who need professional services from areas represented in the College.

CENTER FOR ARCHAEOLOGICAL RESEARCH

The Center for Archaeological Research (in the College of Social and Behavioral Sciences) was established in September, 1974. Among its objectives are: (1) to provide the opportunity for students to train in archaeology; (2) to promote archaeological research in the South and South Central Texas region and in Mesoamerica; (3) to carry out archaeological surveys and assignments for federal and state agencies as required by legislation and executive orders; (4) to aid local agencies and citizens who need the services of trained archaeologists; and (5) to sponsor regional, state, and national programs and conferences.
The Center's staff includes a number of graduate and undergraduate students, who, 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. Other research by the Center has included the study of the ancient Maya at the sites of Colha, Belize and Rio Azul, Guatemala. Results of Center investigations are published in nearly 250 volumes in 10 publications series: *Archaeological Survey Reports; Regional Studies; Special Reports; Guidebooks in Archaeology; Choke Canyon Series; Colha Project Interim Reports, Colha Project, Belize; Working Papers; Papers of the Colha Project; Rio Azul Reports, Rio Azul Project, Guatemala; Archaeology and History of the San Juan Bautista Mission Area, Coahuila and Texas.*

The Center has administered more than 400 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, a multi-year study of the prehistory and history of the Choke Canyon Reservoir area in southern Texas, five seasons of excavation at the Maya site of Colha in Belize, Central America, and studies of the Rio Azul site in Guatemala. Several projects have also been carried out in Louisiana and New Mexico. In addition, the Center has helped to organize and support regional archaeological surveys and excavations and has participated in local, state, and international archaeological conferences.

In 1985, the Center launched its "Friends of Archaeology" program of public participation in archaeological research. Through the "Friends" program, the Center is able to provide seed grants for faculty and students, and research assistant stipends for graduate and undergraduate anthropology majors, as well as the sponsorship of special lectures, special studies, and publication of important reports.

**CENTER FOR LEARNING AND DEVELOPMENT RESEARCH IN EDUCATION**

The Center for Learning and Development Research in Education, located in the College of Social and Behavioral Sciences, is designed to stimulate basic and applied research in learning and development, particularly as it applies 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 involves 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.

**HISPANIC RESEARCH CENTER**

The Hispanic Research Center was established in September 1989, and operates under the auspices of the Vice President for Academic Affairs. The Center's mission is to provide an interdisciplinary University focus on research regarding Hispanics. The Center will stimulate research regarding Hispanic populations in the United States in general and in Texas/South Texas in particular. The Center also will plan and conduct faculty forums emphasizing research on Hispanics. Major research areas addressed by the Center include: education, social and political access, history, culture, business and economic opportunity, mental and physical health and United States-Mexican relations. The Center has a ten-member advisory committee composed of faculty, the Director, the Vice President for Academic Affairs, and community persons with expertise in Hispanic issues.
OFFICE OF PROFESSIONAL DEVELOPMENT IN EDUCATION

The Office of Professional Development in Education, located in the College of Social and Behavioral Sciences, is designed to promote professional development activities for educators. The development of advanced academic training programs (AAT), the coordination of UTSA faculty in staffing advanced academic training programs, the presentation of professional training programs for educators as identified by Chapter 75 of the Texas Education Code and the evaluation of advanced academic training programs are at the core of its activities. The office seeks to work with schools to develop advanced academic training programs that will fit the needs of both the professional educator and the local community.

Three delivery systems are available to meet these objectives: (1) graduate or undergraduate coursework for university credit in subject matter or professional education areas; (2) advanced academic training in subject matter areas; and (3) advanced academic training in areas such as classroom management training, pedagogy, and strategies and techniques for teaching.

Each of these programs can be offered on UTSA's campus, at HemisFair Plaza or at selected off-campus locales. Credit for graduate and undergraduate coursework is accumulated via standard academic procedures including conformity to graduate, special graduate or undergraduate admission requirements. All advanced academic training programs conform to Texas legislative guidelines whereby 15 hours of AAT is equivalent to 1 hour of graduate coursework.

OFFICE OF RESEARCH ON TEACHING PERFORMANCE

The Office of Research on Teaching Performance (in the College of Social and Behavioral Sciences) was established in response to the 1985 Texas educational reform legislation which mandates the performance appraisal of teachers. The Office has three main purposes: (1) to collaborate with educating institutions for the explication of effective teaching processes to promote students' learning, (2) to study teaching performance in varied instructional settings, and (3) to interpret and disseminate research findings on the processes of teaching and teacher evaluation to the profession and the public.

The Office promotes collaboration among researchers, teachers, and administrators in school settings and in other educating institutions for the design, support, and conduct of research into variables of teaching performance and teaching effectiveness.

A major purpose of the Office is to interpret research on teaching for the profession and the public. The Office designs and develops workshops, conferences, and media productions among other delivery systems, to broadly disseminate the meanings of research on teaching and to promote understanding of the complexities and dimensions of teaching performance.

THE UTSA ART GALLERY

The UTSA Art Gallery enhances the teaching, research, and outreach missions of the College of Fine Arts and Humanities. It provides a setting for visual and oral presentations for the university family at large and the public of Greater San Antonio.

The UTSA Art Gallery serves as an educational tool for students pursuing a career in art. Exhibitions and collections reflect the academic curriculum, provide avenues for research, and present opportunities for interpretation, designing, preparing and installing exhibits.

Activities in the UTSA Art Gallery in recent years include a major traveling archaeological exhibit, the Rio Azul Exhibit; readings by writers Ruth Stone and Alberto Rios; painting exhibitions by Melissa Miller and Earl Staley; sculpture exhibitions by James Drake and Suzanne Klotz-Reilly; and print exhibitions of the works of Pablo Piccaso and Jose
Guadalupe Posada. Also presented are the biennial exhibits by members of the faculty of Art and Architecture.

THE UNIVERSITY BOOKSTORE

The University Bookstore, owned and operated by UT San Antonio, is located on the first level of the Science Building. The Bookstore attempts to maintain a complete inventory 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 FOOD SERVICE

Two cafeterias, one on the first level of the John Peace Library Building and the other located in the University Center, provide food and beverage service to the University community. Owned and operated by UT San Antonio, the cafeterias provide breakfast, lunch, dinner and snacks. Daily specials and salad bars are available at these facilities.

The HuB Sandwich Shop, located on the lower level of the Humanities-Business Building, features many kinds of hot and cold sandwiches for a quick lunch or coffee break. The Roadrunner Roost in the University Center serves beverages and snacks in a relaxed "Pub" environment. The University Food Service also provides catering for large and small groups. A declining balance cash card system, the Roadrunner Express Card, is available to all students, faculty and staff. Information on this program may be obtained by contacting the Food Service Office in the John Peace Library Building.

COMPUTING RESOURCES

Computing resources at UT San Antonio include two centrally supported IBM 4300 series systems, a DEC VAX 8650 system, a modern student computing laboratory with 108 networked personal computers, and 80 terminals for academic IBM and VAX use. Specialized facilities in the College of Sciences and Engineering include a Scientific Visualization Lab with Silicon Graphics workstations, a CAD/CAE lab with Sun and DEC workstations, and an Artificial Intelligence Lab with Symbolics and LMI LISP-based systems. Ten other specialized student computing facilities supported by colleges and divisions are located in various buildings on campus.

A campus ethernet backbone connects all major facilities and provides links to wide-area networks (BITNET, Internet, THENet, NSFNet) with electronic mail, file transfer, and remote login capabilities. Off-campus access is supported via dial-up modems that connect to all mainframe systems and network resources. Supercomputing facilities at the U.T. System Center for High Performance Computing include a Cray x-MP/24 and 14se with Convex and VAX interfaces accessible via the network.

Administrative information systems and the University Library On-Line Catalog (NOTIS) are supported on one of the IBM 4381 processors. Services include automated telephone registration, integrated on-line student information and other administrative support systems.

THE UNIVERSITY CENTER BUILDING

The University Center Building, located on the West Paseo between the Humanities-Business Building and the Physical Education Building, opened in Summer 1986. The two-story, 42,000 square foot facility houses a lounge, cafeteria, recreation room, television rooms, and cafe. Additionally, a large multipurpose room, meeting rooms, and print shop are available in the Center. A student activity complex on the second floor provides work
space for registered student organizations, student government offices, the University Center Program Council office, and the Student Activities Office.

The Ticketmaster outlet is located at the Information Desk in the University Center.

THE UTSA ALUMNI ASSOCIATION

The UTSA Alumni Association was established in June 1977 and incorporated in the State of Texas in July 1978. The association is a membership organization, with its affairs, funds and property managed by a twenty-one member Executive Council. The purpose of the association is "to support the educational activities of The University of Texas at San Antonio, to support policies generally favorable to higher education, and to engage in other benevolent and charitable undertakings relevant to the mission of The University of Texas at San Antonio." In fulfilling its purpose, the association provides scholarships to new and current students, and engages in fund raising activities for this objective. A newsletter is published for association members and social events are offered during the year, including the annual meeting each fall and Homecoming in the spring. The Alumnus of the Year is announced annually.

VETERANS' ASSISTANCE

Financial assistance is available to veterans, eligible dependents of veterans, and personnel on active service in the Armed Forces. The Office of Veterans' Affairs, located in The Office of Admissions and Registrar assists those eligible for this program by providing all the necessary forms and current information about the benefits provided under the law. It is the responsibility of every student who receives veterans' assistance to be informed of the academic standards of progress that apply to all eligible VA recipients. These standards comply with Veterans Administration regulations and are monitored by the Texas Education Agency.

COUNCIL ON GRADUATE EDUCATION

The Council on Graduate Education at The University of Texas at San Antonio is the governing body of the Graduate Faculty. The Council's responsibilities include: all matters of academic policy in the area of graduate education; establishment of qualifications for membership on the Graduate Faculty; review and approval of faculty members as recommended by the Committees on Graduate Studies, Division Directors and Deans of the Colleges to participate in the graduate program; coordination of graduate education in The University and maintenance of its quality by recommending minimum university-wide graduate academic standards; monitoring of the quality of graduate education through a periodic evaluation of graduate programs and review of and recommendation on proposals for new graduate programs and courses and revisions of existing programs and courses.

Members are elected to the Council on Graduate Education by the Members of the Graduate Faculty in Committees on Graduate Studies for each graduate degree program in The University. There is a student representative to the Council on Graduate Education from each College elected by the Members of the Graduate Faculty in each College and from these representatives, one student is elected to represent the Council on the University Assembly. The Vice President for Academic Affairs chairs the Council on Graduate Education and is the administrative officer responsible for graduate education.

INSTITUTE OF TEXAN CULTURES

The Institute was established as the official State of Texas exhibit at the 1968 San Antonio world's fair (HemisFair) and was transferred to the U.T. System Board of Regents by the
61st Legislature in 1969. On February 14, 1986, the regents approved an enhanced educational mission for the University of Texas Institute of Texan Cultures along with an administrative affiliation of the Institute with The University of Texas at San Antonio.

Since its inception, the Institute has grown into a learning and communication center for the interpretation of Texas history and folk culture. Displays of art and artifacts become a teaching laboratory as professionally trained staff members and volunteers use the exhibits as a setting for "living history." The annual Texas Folklife Festival, held on the Institute's grounds for four days each August, attracts more than 5,000 participants and 100,000 visitors every year.
III
TUITION FEES CHARGES PENALTIES AND DEPOSITS
PAYMENT AND REFUND POLICIES

All policies regarding the payment or refunding of tuition, fees, and charges are approved by the Board of Regents of The University of Texas System and comply with applicable state statutes. If a person desires clarification of any matter relating to payment or refund of such charges, he or she should contact the office or administrative unit from which the charge or refund originated.

PAYMENT

Students are entitled to enter class or laboratory only after payment of their tuition and fees has been arranged using one of the following alternatives:

a) Full payment of tuition and fees in advance of the beginning of the semester.

b) One-half payment of tuition and eligible fees in advance of the beginning of the semester and one-fourth payment prior to the start of the sixth and eleventh class weeks. Parking fees, installment fee, add/drop fee and the property deposit are not eligible for the installment payment program and must paid in full on the initial billing.

A student may choose option (b) only during the fall and spring semesters. A service charge of $16.00 will be added to the student’s bill if alternative (b) is chosen.

If the student chooses to use the installment option, a promissory note must be completed and be on file in the Bursar’s office before the registration process can be considered complete.

No change in the payment plan chosen by the student at Registration will be allowed during the semester.

A student who fails to provide full payment of tuition and fees, including late fees assessed, to the University when the payments are due is subject to one or more of the following actions at the University’s option:

a) Bar against readmission or enrollment for future semesters at this institution.

b) Withholding of grades, degree and official transcript; and

c) All penalties and actions authorized by law.

All financial aid will be applied to total tuition and fees before calculation of payment plan. Partial installment payments will not be accepted. However prepayment in full of an installment or of total installments will be accepted at any time after registration.

Refunds from the Add/Drop process will be prorated to remaining installments. Additional fees incurred from the Add/Drop process will be added to the balance due from Registration and the installment payments will be recalculated according to the installment plan chosen at Registration.

A late fee of $10.00 will be added to the student’s bill if an installment payment is not paid by the due date. A student who fails to make full payment prior to the end of the semester may not receive credit for the work done that semester and will not be allowed to register for future semesters until the delinquent amount is paid.

Payment may be made by credit card or 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 Returned Check Fee. If a check is returned, which has been used for

Tuition and fees are subject to change by Legislative action. Changes in tuition or fees will be effective upon date of enactment and will be reflected in fees and tuition charged. The availability of installment payment options is also subject to change by Legislative action.
payment of an advanced registration, and this check is not cleared before the start of the semester, a late registration fee of $15.00 will be charged to the student.

Personal checks may be cashed in the University Bookstore for an amount up to $5.00. 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 on the following pages:

TUITION EACH SEMESTER

<table>
<thead>
<tr>
<th>Number of Hours Taken</th>
<th>Residents of Texas Fiscal Years 91-92 &amp; 92-93</th>
<th>Nonresidents Fiscal Year 91-92</th>
<th>Foreign Students</th>
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</thead>
<tbody>
<tr>
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<td>21</td>
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<td>Each Additional Hour</td>
<td>20.00</td>
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</table>

2See Exemption from Tuition and Fees in this section of the catalog.
3Tuition for thesis or dissertation credit only is $20.00 for residents of Texas and $128.00 for nonresidents.
TUITION SUMMER SESSION

Residents of Texas

<table>
<thead>
<tr>
<th>Number of Hours Taken</th>
<th>Each Summer Term Fiscal Years 91-92 &amp; 92-93</th>
<th>Entire Summer Session Fiscal Years 91-92 &amp; 92-93</th>
<th>U.S. Citizens</th>
<th>Foreign Students</th>
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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.

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/her status, he/she should consult the Director of Admissions and Registrar prior to registration. There can be no change in residence classification without the express authorization of the Registrar.

GENERAL FEE

The General Fee is a compulsory fee authorized by statute for the use and availability of University buildings and facilities as set forth in the following table.

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*For residence regulations, consult the Office of Admissions and Registrar.

$^1$Tuition for thesis or dissertation credit only is $20.00 for residents of Texas and $128.00 for nonresidents.
STUDENT SERVICES FEE

A compulsory Student Services Fee is charged to all students enrolled at The University as set forth in the following table. This fee provides services and activities which are separate and apart from the regularly scheduled academic functions of The University and directly involve or benefit students. These services and activities include recreational activities, health services, intramural and intercollegiate athletics, artists and lecture series, cultural entertainment series, student government, and any other student activities and services specifically authorized and approved by the Board of Regents. Please see the following table of General and Student Services Fees.

GENERAL FEE AND STUDENT SERVICES FEE TABLE

Each student who registers at UT San Antonio is required to pay general fees and student service fees\(^6\) 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>
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<td>30.00</td>
<td>50.00</td>
</tr>
<tr>
<td>6</td>
<td>36.00</td>
<td>60.00</td>
</tr>
<tr>
<td>7</td>
<td>42.00</td>
<td>70.00</td>
</tr>
<tr>
<td>8</td>
<td>48.00</td>
<td>80.00</td>
</tr>
<tr>
<td>9</td>
<td>54.00</td>
<td>90.00</td>
</tr>
<tr>
<td>10</td>
<td>60.00</td>
<td>90.00</td>
</tr>
<tr>
<td>11</td>
<td>66.00</td>
<td>90.00</td>
</tr>
<tr>
<td>12</td>
<td>72.00</td>
<td>90.00</td>
</tr>
<tr>
<td>13</td>
<td>78.00</td>
<td>90.00</td>
</tr>
<tr>
<td>14</td>
<td>84.00</td>
<td>90.00</td>
</tr>
<tr>
<td>15</td>
<td>90.00</td>
<td>90.00</td>
</tr>
<tr>
<td>Each Additional Hour</td>
<td>6.00</td>
<td>-0.</td>
</tr>
</tbody>
</table>

UNIVERSITY CENTER FEE

University Center Fees are as follows:
$15.00 per student, each regular session; $7.50 each summer session.

DEGREE APPLICATION FEE

An $18.00 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 according to the specific dates listed under Application for the Degree. This fee is not refundable and must be paid each time an application for a degree is filed. Cap and gown rental is not provided as part of the degree application fee.

\(^6\)See the Exemption from Tuition and Fees in this section of the catalog.
The University charges a fee of $10.00 per copy 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 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.

**Returned Check Fee**

A charge of $10.00 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.

**Student Photo Identification Card Charges**

A one time charge of $10.00 is assessed for the issuance of a student photo identification card. A charge of $10.00 is assessed for the issuance of a replacement photo identification card. This charge must be paid at the time the application for the replacement is made.

**Transcript Fee**

A charge of $4.00 is made for each UT San Antonio transcript to be processed and mailed within 48 hours. A charge of $6.00 is required if the transcript is to be provided within 1 hour. This fee must be paid before a transcript will be issued.

**Instrument Users Fee**

In certain biology courses and music courses, an instrument users fee of $10.00 per course may be charged. When this fee is charged, the schedule of classes indicates the associated fee.

**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 $30.00, may be charged. When a laboratory fee is charged, the schedule of classes indicates the associated fee.

**Automated Services and Computer Access Fee**

Each student who registers at UT San Antonio is required to pay a $3.00 per semester credit hour fee. The minimum fee is $15.00 and the maximum fee is $45.00 per semester.
ADD/DROP FEE
A fee of $2.00 will be charged for each ADD/DROP transaction which is processed during the ADD/DROP period beginning the first class day and ending on census date. The fee will not be charged during the telephone registration period and for transactions initiated by the university. This fee is not refundable.

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.

STUDIO ART FEE
A fee of $10.00 per course is assessed students enrolled in courses in the Art and Design curriculum which will use any of the studios under the direction of the division.

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 filling out a Friend of the UTSA Library application at the Circulation Desk in the UTSA Library (John Peace Library Building, second floor) and paying a nonrefundable donation. Donations are $15.00 September through August or $7.50 for the months of June through August only. There are limits on the services offered to Friends of the UTSA Library card holders; further details are available from the Circulation Desk.

Permission to audit may be obtained and fees paid only during the late registration period. All auditors of courses must register their vehicles and obtain parking permits from the University Police Traffic Office.

PARKING FEES
All vehicles parked on the campus must be in compliance with the UTSA Parking and Traffic Regulations. Copies of these regulations are available during registration, and in the University Police office.

Parking fees for students are as follows:

<table>
<thead>
<tr>
<th>Class</th>
<th>Fee</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class G</td>
<td>$27.00</td>
<td>General &amp; Dormitory parking permit, if purchased during the fall semester.*</td>
</tr>
<tr>
<td>Class D</td>
<td>15.00</td>
<td>General &amp; Dormitory parking permit, if purchased during spring semester.</td>
</tr>
<tr>
<td></td>
<td>10.00</td>
<td>General &amp; Dormitory parking permit, if purchased during the summer session.</td>
</tr>
<tr>
<td>Class C</td>
<td>$13.00</td>
<td>Motorcycle, motor scooter, motorbike parking permit, if purchased during the fall semester.</td>
</tr>
<tr>
<td></td>
<td>7.00</td>
<td>Motorcycle, motor scooter, motorbike parking permit, if purchased during the spring semester.</td>
</tr>
<tr>
<td></td>
<td>3.00</td>
<td>Motorcycle, motor scooter, motorbike parking permit, if purchased during the summer session.</td>
</tr>
</tbody>
</table>
Class W  3.00 Bicycle parking permit, if purchased any time during the academic year.
Class M  $20.00 Mini-car parking permit if purchased during the fall semester.
          12.00 Mini-car parking permit if purchased during the spring session.
          10.00 Mini-car parking permit if purchased during the summer session.
Class S  Carpool fees vary by semester and by number of primary vehicles in carpool.

Parking permits are available for handicapped and disabled persons in accordance with applicable statutory law and UT San Antonio Parking and Traffic Regulations.

Refunds for unused portions of parking permits must be requested on the "Refund Request Form" available in the University Police Traffic office.

Refunds will be made in accordance with the current UTSA Parking & Traffic Regulations, Article 11, Subdivision 11, Section 7.

FIELD TRIP FEE

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

PHYSICAL EDUCATION FEES

Physical Education Activity Fee. A fee of $10.00 for a semester or summer term is required of every student registering for a physical education course or activity. Lockers, towels, and locks are provided.

Equipment and Lane Fee. A fee of $60 for a semester or summer term is required of every student registering for a physical education bowling course.

Driving Range Fee. A fee of $44.00 for a semester or summer term is required of every student registering for a physical education golf activity course.

Swimming Pool Fee. A fee of $22.00 for a semester or summer term is required of every student registering for a physical education swimming activity course.

TENNIS CENTER FEE

Dependents of full-time students, UTSA faculty and staff and dependents, may use the Tennis Center at specified hours and are charged fees according to the schedule listed below. By paying the Tennis Center fee, the person is entitled to use any of the other athletic facilities.

Student Dependents. The spouse and children of full-time students are entitled to use the Tennis Center and all other athletic facilities according to the schedule listed below. A full-time graduate student is one enrolled for at least 9 semester hours in the fall or spring semester and for 3 semester hours in a five-week summer session or 5 hours in a ten-week summer session.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>ANNUAL FEE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Full-time student spouse</td>
<td>$6.00 per semester or entire summer</td>
</tr>
<tr>
<td>2. Full-time student child</td>
<td>6.00 per semester or entire summer</td>
</tr>
</tbody>
</table>

Lockers and locks are provided. In order for a spouse or child to use the Tennis Center, the faculty or staff member must first pay his/her use fee. Children must be accompanied by a parent or guardian.

*Dependent permits are valid in Dormitory lot and any unrestricted lined parking space in other parking lots.*
UTSA Personnel and Dependents. Full-time faculty and staff desiring to use the Tennis Center and all other athletic facilities are charged fees under the following schedule:

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>ANNUAL FEE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Faculty-staff member</td>
<td>$12.00</td>
</tr>
<tr>
<td>2. Faculty-staff spouse</td>
<td>12.00</td>
</tr>
<tr>
<td>3. Faculty-staff child</td>
<td>12.00 (maximum of $40.00 per family)</td>
</tr>
</tbody>
</table>

Guests. Guests of UTSA students, faculty and staff may use the Tennis Center at certain hours for $1.50 per person for a 1 1/2 hours reservation. Guest fees are payable at the Tennis Center office.

**UTSA FACULTY AND STAFF GYMNASIUM AND FACILITY USE FEE**

Faculty and staff gymnasium and facility use fees are required. Faculty and staff (including guests) desiring the use of the Convocation Center and Gymnasium and other recreational facilities (excluding Tennis Center) may use the 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. Children must be accompanied by a parent or guardian.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>ANNUAL FEE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. UTSA 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</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>B. UTSA Alumni Association</td>
<td>$12.00</td>
</tr>
<tr>
<td>Member</td>
<td></td>
</tr>
<tr>
<td>C. Guest Fee</td>
<td>$ 1.00</td>
</tr>
<tr>
<td>Guest of UT San Antonio</td>
<td>/visit</td>
</tr>
<tr>
<td>student, faculty member or</td>
<td></td>
</tr>
<tr>
<td>staff member</td>
<td></td>
</tr>
</tbody>
</table>

These fees are non-refundable.

**DUPLICATE FEE RECEIPT**

A service charge of $2.00 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.

**DUPLICATE CLASS SCHEDULE**

A service charge of $2.00 is assessed for the issuance of a duplicate class schedule. This charge must be paid at the time the application for a duplicate class schedule 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 reenrollment, and in refusal to issue the student's transcript by The University.

The deposit is refunded upon request, less outstanding charges, only when the student officially withdraws from school or graduates. When the property deposit refund is requested, the student has the option to elect that the property deposit be used to pay his/her first year's dues in The UTSA Alumni Association. The form for requesting a refund or that the deposit be used for alumni association dues is available at the UTSA Bursar's office. A general property deposit 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 the student scholarships.

CAREER PLANNING AND PLACEMENT
REGISTRATION FEE

UT San Antonio students and alumni interested in establishing a credential file for an employment search or for graduate or professional school applications, are invited to use the services of the Career Planning and Placement Center. There is a $10.00 registration fee for this service. 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 materials to prospective employers.

CAREER PLANNING NETWORK PLACING FEE

A fee of $10.00 is required of all students who wish to be registered in the national placement network data base.

APPLICATION FEE

A fee of $20.00 is required of all prospective students who file an application for admission to the University.

FOREIGN LANGUAGE MULTI-MEDIA LEARNING CENTER FEE

Each student who registers at UT San Antonio in a Foreign Language course is required to pay a $5.00 per course fee.

LOCKER FEE

Students who wish to use lockers in the Library, Music Division, and Art and Architecture Division will be required to pay a $15.00 per semester fee.

MUSIC MAJOR FEE

Each student, who is a Music major at UT San Antonio, will be required to pay a $25.00 per semester fee.

STUDENT TEACHING FEE

A 25.00 fee will be assessed all students during their semester of student teaching.
UNIVERSITY PUBLICATION FEE

A $2.00 per semester fee will be assessed all students enrolled at UT San Antonio to cover the costs of providing catalogs, class schedules and other official publications.

TEACHER PLACEMENT SERVICE FEE

Presently enrolled students of The University of Texas at San Antonio may register for teacher placement services with the Office of Teacher Certification and Placement on a no fee basis. Non-students and alumni will be charged an annual $5.00 registration fee. The registrant receives the preparation, duplication and maintenance of three sets of credentials. A handling fee of $5.00 plus copying charges will be assessed for each additional set requested.

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 University of Texas System Board of Regents to show evidence of professional liability (malpractice) insurance coverage. The Director of the Division of Life Sciences may be consulted relative to obtaining such insurance.

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.
<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>ELIGIBILITY</th>
<th>FEES EXEMPTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accredited School Scholarship</td>
<td>Highest ranking graduate of an accredited Texas high school</td>
<td>Tuition during first two semesters (long session) following graduation</td>
</tr>
<tr>
<td>Texas Ex-Servicemen</td>
<td>(1) Resided in Texas for 12 months prior to registration (2) A bona fide legal resident of Texas at time entered service (3) Served in armed forces in World War I, World War II, Korean Conflict, or the Cold War (4) Honorably discharged (5) Not eligible for Federal Educational benefits</td>
<td>Tuition Laboratory fees Supplementary fees General fee</td>
</tr>
<tr>
<td>Children of Disabled Texas Firemen and Peace Officers</td>
<td>For children under 21 years of age of disabled full-paid or volunteer firemen, full-paid municipal, county, or state peace officers, or custodians of the Department of Corrections, or game wardens</td>
<td>Tuition Required fees&lt;sup&gt;8&lt;/sup&gt;</td>
</tr>
<tr>
<td>Blind and Deaf Students</td>
<td>A blind disabled person, or a person whose sense of hearing is nonfunctional</td>
<td>Tuition Required fees&lt;sup&gt;9&lt;/sup&gt; General Property Deposit</td>
</tr>
<tr>
<td>Children of Texas Veterans</td>
<td>For children of members of the armed forces who were killed in action in World War II, Korean Conflict, or the Cold War and to orphans of members of the Texas National Guard killed since January 1, 1946, while on active duty. Children cannot be eligible for Federal Educational benefits.</td>
<td>Tuition Laboratory fees Supplementary fees General fee</td>
</tr>
<tr>
<td>Good Neighbor Scholarship</td>
<td>(1) Native-born students from other nations of the American hemisphere—limited to 235 students each year (2) Furnish certified evidence of native-born citizenship and scholastic qualifications</td>
<td>Tuition</td>
</tr>
<tr>
<td>Firemen Enrolled in Fire Science Courses</td>
<td>Enrolled in course offered as part of fire science curriculum</td>
<td>Tuition Laboratory fees Supplementary fees</td>
</tr>
<tr>
<td>Children of Prisoners of War or Persons Missing in Action</td>
<td>Dependent person under 25 years of age who receives majority of support from parent. Parent classified by Department of Defense as a Prisoner of War or Missing in Action at the time of registration</td>
<td>Tuition Required fees&lt;sup&gt;10&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<sup>8</sup> Required fees include laboratory fees, supplementary fees, the general fee, student services fee and the University Center fee.
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.

In a Fall or Spring semester 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. If a student is using the installment payment plan, the student's refund is calculated on the total tuition and fees assessed for the semester and then netted against the balance still owed to the University.

Summer terms are considered as one session for refund/drop purposes. If courses are to be dropped in either term, please refer to census dates for refund purposes. A student who wishes to withdraw from the summer session must withdraw from the total courses registered for in both terms of the summer session. In the summer session, 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.  

Refunds of applicable tuition and fees will be made for courses from which students drop within the first twelve class days of a Fall/Spring semester or the first four class days of a Summer Session term, provided the student remains enrolled for that semester or term. Refunds for courses dropped by a student who withdraws later in the semester or term will be calculated according to the percentage schedules in the Refund Policy above. Refund of tuition for dropped courses will be made only if the original payment exceeds the established minimum amount.

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 census date. 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 forms and exit survey needed for withdrawing from The University may be obtained in the Office of Student Information and Retention.

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.
5. Withholding of grades.

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.

11These refund percentages are applicable to tuition, the supplementary fees, the general fee, laboratory fees, University Center fee, and the student services fees.
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 fifteen days will be withdrawn from The University by the Registrar for non-payment of tuition and fees.
IV
INFORMATION
AND
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 Part One, Chapter VI, of the *Rules and Regulations* of the Board of Regents of The University of Texas System and in the UT San Antonio *Student Handbook*. The Regents' *Rules* and the *Student Handbook* 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 *Student Handbook* may be obtained in the Office of the Assistant Vice President for Student Life.

STUDENT ACTIVITIES AND ORGANIZATIONS

Student activities revolve around a variety of student organizations reflecting the social, service, cultural, political and academic interests of the diverse student community. Student activities are designed to enhance classroom education, to assist students in developing leadership qualities, to develop interpersonal skills and to create a stimulating campus environment.

Various programs, activities and services are coordinated through the Student Activities and Organizations Office. They include University Center Programs, leadership development programs, Greek Affairs, a Student Activity Calendar and liaison with VIA Metropolitan Transit. The *Faculty Advisor Handbook* and *Student Organizations Handbook* are publications made available through this office. An inner-campus message center for registered student organizations is located in the Student Activities Complex in the University Center.

HAZING

Under state law (Sections 4.51 through 4.58, Education Code), individuals or organizations engaging in hazing could be subject to fines and charged with a criminal offense. The statute provides that a person can commit a hazing offense not only by engaging in a hazing activity, but also by soliciting, directing, encouraging, aiding or attempting to aid another in hazing; by intentionally, knowingly or recklessly allowing hazing to occur; or by failing to report in writing to the dean of students first-hand knowledge that a hazing incident is planned or has occurred. The fact that a person consented to or acquiesced in a hazing activity is not a defense to prosecution for hazing under the law.

In an effort to encourage reporting of hazing incidents, the law grants immunity from civil or criminal liability to any person who reports a specific hazing event to the Assistant Vice President for Student Life and immunizes that person from participation in any judicial proceeding resulting from that report. The penalty for failure to report is a fine of up to $1000, up to 180 days in jail, or both. Penalties for other hazing offenses vary according to the severity of the injury which results and include fines from $500 to $10,000 and/or confinement for up to two years.

The law defines hazing as any intentional, knowing, or reckless act, occurring on or off the campus of an educational institution, by one person alone or acting with others, directed against a student, that endangers the mental or physical health or safety of a student for the purpose of pledging, being initiated into, affiliating with, holding office in, or maintaining
membership in any organization whose members are or include students at an educational institution. "Hazing" includes but is not limited to:

A. any type of physical brutality, such as whipping, beating, striking, branding, electric shocking, placing of a harmful substance on the body, or similar activity;

B. any type of physical activity, such as sleep deprivation, exposure to the elements, confinement in a small space, calisthenics, or other activity that subjects the student to an unreasonable risk of harm or that adversely affects the mental or physical health or safety of the student;

C. any activity involving consumption of food, liquid, alcoholic beverage, liquor, drug, or other substance which subjects the student to an unreasonable risk or harm or which adversely affects the mental or physical health of the student;

D. any activity that intimidates or threatens the student with ostracism, that subjects the student to extreme mental stress, shame, or humiliation, or that adversely affects the mental health or dignity of the student or discourages the student from entering or remaining registered in an educational institution, or that may reasonably be expected to cause a student to leave the organization or the institution rather than submit to acts described in this subsection; and

E. any activity that induces, causes, or requires the student to perform a duty or task which involves a violation of the Penal Code.

The law does not affect or in any way restrict the right of the University to enforce its own rules against hazing, and the University may take disciplinary action for conduct that constitutes hazing regardless of whether public authorities prosecute students under the provisions of the state statute prohibiting hazing. Part One, Chapter VI, Section 3.28 of the Regents' Rules and Regulations provides that hazing with or without the consent of the student is prohibited by the System and a violation of that prohibition renders both the person inflicting the hazing and the person submitting to the hazing subject to discipline. Initiations or activities by organizations may include no feature which is dangerous, harmful, or degrading to the student, and a violation of this prohibition renders both the organization and participating individuals subject to discipline.

STUDENT HEALTH SERVICES

The application for admission to The University of Texas at San Antonio includes a Health Information Form. This form must be completed by the student and returned to The University Student Health Center.

When The University is in session, a registered nurse is on duty during normal 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.

The University of Texas at San Antonio has a policy on HIV Infection and AIDS which is available from the Student Health Center upon request.

An educational pamphlet about methods of transmission and prevention of HIV infection is available at the Student Health Center.

COUNSELING CENTER

The Counseling Center provides professional services which are designed to help meet the personal and developmental needs of students.
Services offered include individual sessions for personal, educational, and vocational concerns as well as services to couples with relationship difficulties. Group sessions are offered on a regular basis on topics such as assertion training, interpersonal communication skills and stress management.

In addition, self-help cassette tapes are available for listening in person or by phone on a variety of topics ranging from friendship-building to suicidal crisis.

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 and state tests are given on national and state 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

Programs to assist students and parents in financing an education at UT San Antonio are administered by the Office of Student Financial Aid. Students may apply for financial assistance through scholarship, grant, work study and loan programs.

Eligibility for the majority of financial aid programs is determined through an analysis of a family's financial need. This analysis is made after the student completes and submits a financial statement to an agency approved by the Federal government. Before a student can be considered for most forms of financial aid, he or she must:

1. be officially admitted to The University;
2. file the SINGLEFILE Financial Aid Form with USA Funds or the Financial Aid Application Form with the College Scholarship Service;
3. meet deadlines set by the Office of Student Financial Aid;
4. not be in default on any Title IV, HEA loan made for attendance at any institution nor owe a refund on any Title IV, HEA grant received for attendance at any institution;
5. provide proof of eligibility if not a citizen of the United States;
6. provide documents which support the information reported on the application for aid, if requested;
7. if a transfer student, submit a Financial Aid Transcript from each post-secondary school attended whether financial aid was received or not (contact the Financial Aid Office for forms), and
8. make satisfactory academic progress as required for financial aid eligibility to fulfill federal requirements;
9. be working toward a degree and classified by the Admissions Office as seeking a degree.

Financial aid programs available to undergraduate students include College Work Study, Pell Grant, Supplemental Educational Opportunity Grant, Texas Public Education-State Student Incentive Grant; the Perkins Student Loan, Teacher Education Loan, Future Teacher Loan, several Guaranteed Student Loan programs, and various scholarships. The same programs are available to graduate students except the Pell and Supplemental Grants.

Consideration for the Pell Grant and the Guaranteed Student Loan programs is automatically given to any undergraduate student who completes the application process. However all other major financial aid programs have a limited amount of funds which must be granted on a first-come, first-served basis. Therefore, students are strongly encouraged to
have their completed application at the Office of Student Financial Aid by March 31st of each year.

Application forms and detailed instructions on applying are available through the Office of Student Financial Aid. A list of scholarships available to students attending UTSA is published each semester in the Class Schedule, and is also available in the Financial Aid office.

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. Placement programs available at the Center are designed to assist students in the development of effective job hunting skills and methods, e.g., effective letter writing, effective 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.

The Center also provides career placement for students and alumni after graduation. Students and alumni may establish a placement file and use the on-campus interview schedule to meet the representatives from business, industry, and government to explore professional employment opportunities.

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 UT San Antonio graduating students, average starting salary, the type of positions accepted, and when available, the relationship between fields of study and accepted positions.

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 can participate in the life planning workshops, value clarification labs, decision-making seminars (labs), and career exploration symposia offered by the Center.

STUDENT EMPLOYMENT & INTERNSHIPS

The Office of Student Employment and Internships provides resources for students seeking part-time employment while they are still pursuing degrees. Interested students can receive counseling concerning resumes, interviewing, and employment conditions in the part-time job market.

Other services include a computerized part-time job bank and on-campus part-time and cooperative education recruiting schedules. Cooperative education & internship information sessions are also offered every semester.

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.

INTERCOLLEGIATE ATHLETICS

UT San Antonio fields men's and women's teams for intercollegiate competition in Division I of the NCAA. Men's sports include: basketball, cross country, indoor track, outdoor track,

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1 Fees for services of the Career Planning and Placement Center are set forth in Section III of this catalog.
tennis, golf, and soccer. Women’s sports include: basketball, cross country, volleyball, tennis, and indoor track.

**INTRAMURAL AND RECREATIONAL ACTIVITIES**

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

**LIVING ACCOMMODATIONS**

On-campus housing facilities consist of a 510-bed residence hall and activity center. Rooms in Chisholm Hall are furnished with desks, chairs and twin beds. All rooms are double occupancy and include a private bath. The activity center includes a cafe, lounge and an indoor swimming pool. Plans are underway for expansion of on-campus housing facilities. For more information concerning on-campus housing, contact: The Department of Residence Life, The University of Texas at San Antonio, San Antonio, Texas 78249 or call (512) 694-6700.

An off-campus housing directory is available in the Office of Orientation and Learning Assistance to assist students in finding living accommodations in the San Antonio community.

**IDENTIFICATION CARDS**

Student identification cards are mandatory. A non-refundable $10.00 charge for the student photo ID card is assessed at the time of registration. The $10.00 charge is a one-time charge and the card is valid as long as the student is currently enrolled. A $10.00 charge is assessed to replace a lost card. A $2.00 charge is assessed to replace a lost temporary card.

**DIRECTORY INFORMATION**

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

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
- 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

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2 Fees for the Teacher Placement Service are set forth in Section III of this catalog.

The services of the Teacher Placement Service are available to all presently enrolled students, as well as alumni of The University of Texas at San Antonio.
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. 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 the disclosure, review, release, and confidentiality of student records under the Family Educational Rights and Privacy Act of 1974, 20 U.S.C. Section 1232g, consult the Student Handbook available in the Office of the Assistant Vice President for Student Life.

OFFICE OF STUDENT INFORMATION AND RETENTION

The Tomas Rivera Office of Student Information and Retention assists students with the transition to college life by providing an easy access, central source of information. OSIR acts as a liaison between the student and UTSA to enhance the quality of the UTSA experience. The programs and services offered by the OSIR are listed below.

Academic advisement and ongoing guidance is provided to students with undeclared majors and those admitted on a Provisional basis. As part of the official withdrawing process, OSIR conducts exit surveys to help determine how student's needs may better be met.

OSIR community involvement includes programs that have been developed to foster academic growth outside of UTSA. For instance, the Upward Bound Program is a drop out prevention program designed to help high school students develop the attitudes and skills needed to graduate from high school and continue on to college. The OSIR is also active in the University Outreach Program, a program intended to increase minority enrollment in Texas Universities. The OSIR director is liaison for the San Antonio area.

ORIENTATION AND LEARNING ASSISTANCE

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. This program is planned and implemented through the Office of Orientation and Learning Assistance.

The Office of Orientation and Learning Assistance has developed a Mentorship Program which provides incoming students a way to better confront the pressures that accompany college life. This program offers students the opportunity to receive suggestions and encouragement from faculty members and peers who volunteer information in their area of expertise.

Free tutoring is available to UTSA students in all major subject areas Monday through Friday through the Office of Orientation and Learning Assistance's Tutoring Services Program.

The Study Skills Mentoring Program is designed for students wishing to improve their study skills. Weekly discussions offer motivational support and techniques for becoming a successful student.

LOST AND FOUND

All abandoned articles found on The University campus are turned in to the University Police office. Items can be claimed upon proper identification of ownership. Any article not claimed within sixty (60) days will be turned over to the Business Manager for final disposition.
DISABLED STUDENT SERVICES

Disabled students requiring special assistance should contact the Office of Disabled Student Services.

INTERNATIONAL STUDENTS

Foreign students who are enrolled at UT San Antonio should contact the Office of Multicultural Affairs for assistance.

THE UNIVERSITY CENTER BUILDING

The University Center Building, located on the West paseo between the Humanities Business Building and the Physical Education Building, opened in summer 1986. The two-story, 42,000 square foot facility houses a lounge, cafeteria, recreation room, television rooms, and cafe. Additionally, a large multi-purpose room, meeting rooms, and print shop are available in the center. A student activity complex on the second floor provides work space for registered student organizations, student government offices, The University Center Program Council office, and the Student Activities and Organizations Office.

The Ticketmaster outlet is located at the Information Desk in the University Center.
V

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. Graduate study is much more than a mere continuation of undergraduate work and should be considered only by those students with the capacity for independent thought and investigation. All graduate programs at The University of Texas at San Antonio use selective entrance requirements in their admission of students. In addition to the university-wide admission requirements presented below, each graduate degree program specifies additional admission requirements from among: scores on the Graduate Record Examination Aptitude Test (GRE), the Graduate Management Admission Test (GMAT), other standardized examinations, a portfolio, an audition, or other indicators of preparation for graduate study.* Applicants should refer to individual degree descriptions for additional admission requirements.

All classifications of graduate admission require approval by the Vice President for Academic Affairs.** 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

A graduate degree-seeking student is one admitted to a graduate degree program.

Admission as a Graduate Degree-Seeking Student may be unconditional, conditional, or conditional on academic probation.

Unconditional Admission. In order to be eligible for unconditional admission to The University of Texas at San Antonio as a Graduate Degree-Seeking Student, an applicant normally 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 grade-point average of at least 3.00 (on a 4.00 scale) in the last 60 semester hours of course work for the baccalaureate degree as well as in all graduate level work previously taken;*
3. have completed at least 18 semester credit hours (12 of which must be at the upper-division level) in the area or areas in which the graduate degree is sought or in related areas as determined by the Committee on Graduate Studies for the proposed major;
4. be in good standing at the last institution attended;
5. be recommended for admission by the Committee on Graduate Studies in the proposed major.**

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 or who lacks certain supporting documentation required for unconditional admission may be admitted conditionally to the graduate degree program upon recommendation of the Committee on Graduate Studies in the proposed major, and approved by the Vice President for Academic Affairs. Conditions placed on admission may include:

*Information on the GRE and GMAT and applications for the tests may be obtained from the Educational Testing Service, Princeton, New Jersey 08540. Information and applications are also available in the UTSA Testing Center, 4.03.55 MS, UT San Antonio, San Antonio, Texas 78285. The institution code for The University of Texas at San Antonio is 6919-5 for the GRE and 6919 for the GMAT.

**At The University of Texas at San Antonio the Vice President for Academic Affairs is the administrative officer responsible for graduate education.

*Even though admission is based on the last 60 undergraduate hours attempted and all graduate course work taken, students must list on the application for admission all colleges and universities attended and request that an official transcript from each institution be sent to the UT San Antonio Office of Admissions and Registrar.

**The Committee may examine a student on his or her previous preparation before a recommendation is made for the student to be admitted to the program.
1. submission of test scores or other indicators of preparation for graduate study that are unavoidably lacking at the time of admission;
2. completion of additional course work or other study to remove deficiencies, with such make-up work to be in addition to the regular degree requirements;
3. completion of a given number of semester hours and the achievement of a minimum grade-point average, in no case lower than that required for a student to remain in The University as a Graduate Degree-Seeking or Special Graduate Student, if the student's grade-point average is less than that specified for unconditional admission. (See the section on Academic Standing.)

Any conditions placed on the student's admission are included in the notification of admission. If conditions placed on admission are not met within the time specified by the Committee on Graduate Studies and stated in the admission notice, the student may be barred from continuation in the graduate program.

Admission on Academic Probation. An applicant who fails to meet the requirements for unconditional admission and is admitted on a conditional basis may be admitted on academic probation, upon recommendation of the appropriate Committee on Graduate Studies and approval of the Vice President for Academic Affairs. Such admission requires that course work taken during the first semester be completed with a grade-point average of B or better. Failure to earn this average results in academic dismissal.

Denial of Admission as a Graduate Degree-Seeking Student. 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 may recommend the applicant's admission or denial of admission as a Special Graduate Student. (See Admission as a Special Graduate Student.)

ADMISSION AS A SPECIAL GRADUATE STUDENT

A Special Graduate Student is one admitted to The University for the purpose of enrolling in graduate and/or undergraduate courses without entering a degree program. An applicant who elects to enroll as a Special Graduate Student normally must:

1. hold a baccalaureate degree from a regionally accredited college or university in the United States or have proof of an equivalent degree from a foreign institution;
2. have a grade-point average of at least 3.00 (on a 4.00 scale) in the last 30 semester hours of course work for the baccalaureate degree as well as in all graduate level course work previously taken;*
3. be in good standing at the last institution attended; and
4. be recommended for admission as a Special Graduate Student by the authorized representative** of the discipline offering the graduate course or courses desired.

Special Graduate Students are eligible to take any graduate or undergraduate courses for which they have the necessary prerequisites, provided that space is available and that they have the approval of the course instructor in which the course is taught. Students who wish to take a graduate course in a discipline other than that for which they have been authorized on admission must obtain the approval of authorized representative (as defined above) of the discipline offering the course.

Special Graduate Students are advised that:

1. a maximum of 12 semester hours of credit earned as a Special Graduate Student may be applied toward a graduate degree and only when the student has been

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*Even though admission is based on the last 30 undergraduate hours attempted and on all graduate course work taken, students must list on the application for admission all colleges and universities attended. Students must request that an official transcript be sent to the UT San Antonio Office of Admissions only from institutions attended for any of the last 30 undergraduate or any of the graduate hours.

**"The "authorized representative" of the discipline offering the course is the discipline Committee on Graduate Studies acting through its Chair or through its Graduate Advisor of Record, or the Director of the Division in which the discipline is located, if there is no Committee on Graduate Studies for the discipline.
admitted as a Graduate Degree-Seeking Student and the credits earned for these courses have been evaluated and approved for this purpose by the appropriate Committee on Graduate Studies.

2. a student admitted as a Transient Graduate Student and subsequently as a Special Graduate Student may apply a maximum of 12 semester hours of approved credit toward a graduate degree.

3. when teacher certification is involved, approval of the Director, Office of Teacher Certification and Placement, is required before the student enrolls to ensure that credit earned as a Special Graduate Student can be applied to a graduate-level teacher certification program.

4. to continue in The University as a Special Graduate 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.

Denial of Admission as a Graduate Degree-Seeking Student and as a Special Graduate Student. An applicant who is denied admission as a Graduate Degree-Seeking Student and as a Special Graduate Student may be eligible for admission as a Special Undergraduate Student if admission requirements for that classification have been met. (See Admission as a Special Undergraduate Student in the Undergraduate Catalog for UT San Antonio.)

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.

ADMISSION OF INTERNATIONAL STUDENTS

All applications from persons holding non-permanent visas will be processed as International. This includes both applications received from other countries and requests to transfer from a U.S. college or university. All applicants must:

1. Meet the graduate admission requirements for Graduate Degree-Seeking Students. Applicants who will be on a student visa may not be admitted other than as Graduate Degree-Seeking Students. (An I-20 form is not issued to Transient or Special Graduate Students.)

2. Submit scores from the Test of English as a Foreign Language (TOEFL). 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. A minimum score of 600 on the TOEFL is required for unconditional admission. Test section scores are evaluated for students submitting scores between 500-600. Students scoring below a 55 in any of the three test sections (Listening Comprehension, Structure and Written Expression, and Vocabulary and Reading Comprehension) will be required to enroll in the appropriate courses in English for International Students to achieve a level of language proficiency appropriate for graduate studies. Some degree programs also require the TOEFL Test of Written English. TOEFL scores are not required for international students from countries where English is the primary language of instruction and the language spoken in the home by the indigenous population, nor are TOEFL scores required for non-citizens of the United States graduating from United States high schools, colleges, or universities with at least a high school diploma or a baccalaureate or higher degree.

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.
4. Have applications and supporting credentials on file in the Office of Admissions and Registrar by application deadline: Fall, June 1; Spring, October 15; Summer, March 1.

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 Office of Admissions and Registrar, the appropriate Committee on Graduate Studies, with admission granted only to those who show promise of success in graduate study at The University of Texas at San Antonio.

ADMISSION AS A SUMMER TRANSIENT GRADUATE STUDENT

An applicant who wishes to enroll for a summer session only, without pursuing a degree at The University of Texas at San Antonio should apply for admission as a Transient Graduate Student. In order to qualify as a summer Transient Graduate Student the applicant must:

1. hold at least a baccalaureate degree from a regionally accredited college or university,
2. be in good standing at the last institution attended,*
3. be recommended for admission as a Transient Graduate Student by the authorized representative** of the discipline offering the graduate course or courses desired.

Transient Graduate Students may register for any graduate or undergraduate course for which they have the necessary prerequisites provided that space is available and that they have the approval of the course instructor. Students who wish to take a graduate course in a discipline other than that for which they have been authorized on admission must obtain the approval of the authorized representative (as defined above) of the discipline offering the course.

Transient Graduate Students are advised that:

1. A maximum of 6 semester hours of credit earned while a Transient Graduate Student may be applied to a degree program only when the student has been admitted as a Graduate Degree-Seeking Student and the credits earned for these courses have been evaluated and approved for this purpose by the appropriate Committee on Graduate Studies.
2. A student admitted as a Transient Graduate Student and subsequently as a Special Graduate Student may apply a maximum of 12 semester hours of approved credit toward a graduate degree.
3. When teacher certification is involved, approval of the Director, Office of Teacher Certification and Placement, is required before the student enrolls, to ensure that credit earned as a Transient Graduate Student can be applied to a graduate-level teacher certification program.
4. A student admitted as a Transient Graduate Student cannot register for another term unless he or she has applied and been admitted as a Graduate Degree-Seeking Student or a Special Graduate Student.

ADMISSION PROCEDURES FOR TEACHER CERTIFICATION OR FOR CERTIFICATE ENDORSEMENTS AT THE GRADUATE LEVEL

An applicant who desires to work on teacher certification requirements and who holds a Bachelor’s degree should apply either as a Graduate Degree-Seeking Student or Special

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*Even though admission is based on good standing at the last institution attended, students must list on the application for admission all colleges and universities attended. Students must request that an official transcript be sent to the UT San Antonio Office of Admissions and Registrar only from the institution that awarded their highest degree.

**The "authorized representative" of the discipline offering the graduate course is the discipline Committee on Graduate Studies, acting through its Chair or through its Graduate Advisor of Record, or the Director of the Division in which the discipline is located, if there is no Committee on Graduate Studies for the discipline.
Graduate Student (not Special Undergraduate Student) to the Graduate Studies Committee of the Division of Education for all certification and endorsement requirements other than endorsements in Bilingual Education and English as a Second Language. Applicants for these endorsements should apply for admission as either a Graduate Degree-Seeking Student or Special Graduate Student to the Graduate Studies Committee of the Division of Bicultural-Bilingual Studies. A student who is simultaneously seeking a Master's Degree in Education should apply to the Division of Education. When unconditional admission has been granted, the student should apply to the Office of Teacher Certification for an analysis of his/her transcripts and for an official outline of a program that will insure meeting the requirements to obtain a teacher's certificate or a certificate endorsement. In some cases it may be possible to meet certification requirements within a degree program; in other cases the student may need to take additional work for the certificate beyond that required for the Graduate degree. The student's Program Advisor and the Office of Teacher Certification will assist the student in planning an appropriate program of study. Recommendations for the teacher certification (to the Texas Education Agency) are made by the Office of Teacher Certification only after all requirements have been met and the student has officially requested such recommendation.

A brochure summarizing Education Certificate and Endorsement Requirements is available from the Office of Teacher Certification in the Division of Education.

APPLICATION DATES

Students applying for admission as Graduate Degree-Seeking, 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. Because of the time needed to prepare graduate summaries, students are encouraged to have their admission file complete at least one month or more prior to the application deadline. Application forms and instructions are available from the Office of Admissions and Registrar. The completed application form and all required supporting documents must be on file with the Office of Admissions and Registrar by July 1 for the Fall Semester, December 1 for the Spring Semester, and May 1 for the Summer Sessions.* Students who fail to comply with these admission deadlines will be considered late applicants, and The University cannot assure that the applications will be processed in time for the desired date of enrollment. Late application may cause deferment of admission until a subsequent term.

ADMISSION PROCEDURES

Each applicant for admission is responsible for ensuring that all required support documents (e.g., application form, test results, required transcripts, etc.) are on file in the Office of Admissions and Registrar in accordance with admission deadlines, since admission normally is not considered until the applicant's file is complete.

Students who are admitted to The University of Texas at San Antonio for any term and do not register in that term, 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 are admitted but do not register are not retained.

DECLARATION OF PREVIOUS COLLEGE WORK ATTEMPTED

Students are not at liberty to disregard previous college work attempted. All students transferring to The University of Texas at San Antonio must list all colleges attended on their UT San Antonio application for admission. Failure to do so will result in the rejection of...
the application, withdrawal of any offer of acceptance, cancellation of enrollment, permanent dismissal from The University or other appropriate disciplinary action. Students should consult the several categories of admission detailed above to learn which transcripts they need to request be sent to the UT San Antonio Office of Admissions and Registrar.

RE-ADMISSION POLICIES AND PROCEDURES

Former UT San Antonio graduate students who have not been in attendance for one full year must file an application for readmission by the application deadline.

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. Readmission must be recommended by the appropriate Committee on Graduate Studies.
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 Office of Admissions and Registrar.

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 admitted students to register during the allowed time indicated in the schedule of classes issued each 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 Office of Admissions and Registrar. 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. A certification student [or “a student seeking certification only”] should seek approval of the course instructor, the Director of the Division in which the course is offered, and the Director of the Office of Teacher Certification and Placement. 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.

There is a processing fee for adding courses. The fee will only be charged from the first class day through the twelfth class day during the fall or spring semesters and through the fourth class day during each summer term. The fee does not apply to courses added by the telephone registration system. Please see the schedule of classes for information on the amount of the fee and the procedure for adding courses.

DROPPING COURSES

Courses officially dropped during the add/drop period (Census Date) do not appear on the student’s transcript. A student who drops courses after the add/drop period and through the first nine weeks of a semester or the first three weeks of a summer term may drop courses and receive an automatic grade of “W.” The student is responsible for filing the change with the Division Office where the course is offered. The change becomes official only after it is processed at the Office of Admissions and Registrar. Students who have HOLDS may not drop individual courses.
STUDENTS MAY NOT DROP AN INDIVIDUAL COURSE LATER THAN THE LAST DAY OF THE NINTH WEEK OF CLASSES OR AFTER THE FIRST THREE WEEKS OF A SUMMER TERM.

The University Calendar indicates the deadline dates for students to drop courses each term. Any drops after the automatic "W" date are administrative only and ARE NOT STUDENT OPTIONS.

During the first nine weeks of a semester or the first three weeks of a summer term, the instructor may drop a student from class for non-attendance. The student will receive a grade of "W." After these periods, the instructor may recommend to the Vice President for Academic Affairs that a student be dropped from class when the instructor can show that unusual circumstances exist to warrant such action. If approved by the Vice President for Academic Affairs, the student will receive a grade of "W" if the student was passing at the time of the drop or a grade of "F" if the student was failing at the time of the drop.

There is a processing fee for dropping courses from the first class day through the twelfth class day during the fall or spring semesters and through the fourth class day during each summer term. The fee does not apply to courses dropped through the telephone registration system. Students dropping courses after the Census Date and through the date for dropping with an automatic "W" will not be charged the fee. Students withdrawing from the university, no matter what date this action occurs, will not be charged for this transaction.

Please see the schedule of classes for information on the amount of the fee and the procedure for dropping courses.

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 Director of the Division 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. Due to the format of studio/laboratory use, auditors will not be approved for ART courses.

All auditors must submit the Request for Audit Form to the Office of Admissions and 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. Unless you are enrolled in courses at The University, you are not allowed to audit courses which require the use of The University computing system. Non-student auditors who wish library privileges may receive them by filling out a Friend of the UTSA Library application at the Circulation Desk in the UTSA Library (John Peace Library Building, second floor) and paying a non-refundable donation. Donations are $25.00 September through August or $12.50 for the months of June through August only. There are limits on the services offered to Friends of the UTSA Library card holders; further details are available from the Circulation Desk. Persons over 65 are permitted to audit without paying an auditing fee, if space is available.

Permission to audit must be obtained and fees paid beginning the first day of class through Census date. No official record is made of enrollment in classes on an audit basis.

ACADEMIC STANDING

A student's academic standing, whether the student is a Graduate Degree-Seeking Student, a Special Graduate Student, or a Transient Graduate Student 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, irrespective of level of courses taken;
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, registration, or financial requirements or who otherwise fails to adhere to academic regulations is subject to having his/her enrollment for that term cancelled. Application for readmission 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) is required to go through The Office of Student Information and Retention prior to his/her withdrawal. The student must then file the form with the Office of Admissions and Registrar in order to withdraw officially. Students who officially withdraw from The University during the first nine weeks of a semester or during the first three weeks 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 nine weeks of classes in a regular semester or after the first three weeks 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 may not withdraw from The University later than the first day of the week preceding final examinations. 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. Normally, such reinstatement would be after remaining out of school one long semester however, under exceptional circumstances, a petition may be considered earlier. A letter containing
all explanations, recommendations, or doctors' statements in support of the student's request for reinstatement should be submitted to the Vice President for Academic Affairs on or before June 15 for Fall, October 15 for Spring or March 15 for Summer.

The appropriate Committee on Graduate Studies will review the petitioner's letter and academic record and make a written recommendation concerning reinstatement to the Vice President For Academic Affairs. If the Petition for Reinstatement is disapproved, the student may not file another petition until the following semester.

**STUDENT CLASSIFICATION SYSTEM**

*Graduate Degree-Seeking Student:* A student who is admitted to a graduate degree program, unconditionally, conditionally, or conditionally on academic probation.

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

*Summer Transient Graduate Student:* A student who registers for courses in the summer session only and who does not intend to work toward a degree at UT San Antonio.

NOTE: A graduate student who desires to work on a program to meet the requirements for Teacher Certification or for a certificate endorsement must be admitted as either a Graduate Degree-Seeking Student or Special Graduate Student (not a Special Undergraduate Student). He/she must then apply to the Office of Teacher Certification for an official analysis of the requirements that must be met before he/she can be recommended for certification.

**DEFINITION OF A FULL-TIME GRADUATE STUDENT**

A full-time graduate student (Degree-Seeking, Special, or Transient) is one enrolled for nine or more semester hours of graduate credit during a regular semester or for five or more hours of graduate credit during the entire summer term.

**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.

The number of lecture and laboratory hours per week are provided in parentheses in the course description sections immediately following the course number and title. For example, (3-0) indicates three hours of lecture and zero hours of laboratory per week.

**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.*

<table>
<thead>
<tr>
<th>Symbols</th>
<th>Grade Points</th>
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<tbody>
<tr>
<td>A</td>
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<td>B</td>
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<td>NC</td>
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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), or through faculty evaluation of selected Internships and Practica.

"EP" or "Postponement of Final Examination." The symbol "EP" is used to indicate that 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

\*The CR/NR are used only for specific courses listed in the catalog as graded on CR/NR basis. Only these courses can be taken on a CR/NR basis.
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 no later than the end of the final exam period, one year from the semester the incomplete was 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, internship, or dissertation 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 Office of Admissions and Registrar.

"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.

"RP" or "Research in Progress." The symbol RP may be used to denote research in progress, only for ART 6843, AHC 6843, MUS 6913 and for Master's Thesis and Dissertation Courses. When the project, thesis, or dissertation is completed, the RP will be changed to a letter grade up to the maximum number of semester credit hours approved for the specific degree.

"EX" or "Expelled". The symbol "EX" is used to indicate that the student has been expelled from The University.

"NC" or "No Credit." The symbol is used to indicate unsatisfactory progress.

IN NO INSTANCE WILL GRADES BE CHANGED AFTER ONE CALENDAR YEAR.

REPORTING OF GRADES BY THE FACULTY

Grades are reported by course instructors by term and are due in the Office of Admissions and Registrar 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 Office of Admissions and Registrar 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 Office of Admissions and Registrar. Only one grade report is mailed; additional copies are not available. Grade reports will be withheld for any student who owes tuition and fees to The University.
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 Office of Admissions and Registrar.

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 Office of Admissions and Registrar.

Any other change of grade must be initiated by the instructor on the required form available in the Office of Admissions and Registrar or 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 Office of Admissions and Registrar. Requests for a change of grade require the approval of the Director of the Division in which the course is offered, the Dean and the Vice President for Academic Affairs before the Registrar will make the change on the student's record.

IN NO INSTANCE WILL GRADES BE CHANGED AFTER ONE CALENDAR YEAR.

GRADE GRIEVANCE PROCEDURE

In attempting to resolve any student grievance regarding grades or evaluations, it is the obligation of the student first to make a serious effort to resolve the matter with the faculty member with whom the grievance originated. Individual faculty members retain primary responsibility for assigning grades and evaluations. The faculty member's judgment is final unless compelling evidence shows discrimination, differential treatment, or factual mistake. If evidence warrants appeal, then normal academic channels are: Division Director Dean, and Vice President for Academic Affairs.

Grade appeals above the level of the Dean must be submitted in writing on the "Student Academic Grievance Form for Appeal of a Grade" which is available in the Office of the Dean.

IN NO INSTANCE WILL GRADES BE CHANGED AFTER ONE CALENDAR YEAR.

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, request permission of his/her instructor to postpone the examination. This request, should be made 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 judgement 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 recommends 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.

Instructors shall allow a student who is absent from classes for the observance of a religious holy day to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence. A student who is absent from class for the observance of a religious holy day (means a holy day observed by a religion whose places of worship are exempt from property taxation under Section 11, 20, Tax Code) shall be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence if, not later than the fifteenth day after the first day of the semester, the student notifies the instructor of each class the student had scheduled on that date that the student would be absent for a religious holy day.

Notifications of planned absences must be in writing and must be delivered by the student either (a) personally to the instructor of each class, with receipt of the notification acknowledged and dated by the instructor, or (b) by certified mail, return receipt requested, addressed to the instructor of each class.

CHANGE OF MAJOR, DEGREE OR CLASSIFICATION

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

A student changing classification (Special Graduate to Degree-Seeking) must do so by the application deadline for that particular semester.

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. (Regents' Rules and Regulations, Part One, Chapter VI, 3.(17).

"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 faculty member may initiate disciplinary proceedings through the Division Director, the Dean of the College, and the University Discipline Officer.

TRANSCRIPTS

Official transcripts of all course work taken at The University of Texas at San Antonio are available at the Office of Admissions and Registrar. Requests must be in writing and must bear the signature of the student whose record is requested. A fee is charged for each copy and must be paid in advance. Transcripts from other institutions submitted to UT San Antonio become the property of The University and are not reproduced and/or mailed to other institutions, agencies, or individuals as an official transcript. Requests for unofficial copies of transcripts from other institutions may be made in accordance with the open record laws by filling out the required forms in the Office of Admissions and Registrar and paying the fee.

Request for official transcript service will not be honored 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 Office of Admissions and Registrar only upon written request from the student or other person authorized by law under the Family Educational Rights and Privacy Act of 1974 and when payment of the appropriate fee is made. Exceptions may be made in response to a subpoena or court order under other circumstances as allowed under the Family Educational Rights and Privacy Act of 1974, 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 Office of Admissions and Registrar.

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 Office of Admissions and Registrar. The official University transcript will carry the current name and the most immediate previous name, if any. Name change requests should be supported by appropriate legal documentation, 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 Office of Admissions and Registrar 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. Students who have a degree application on file in the Office of Admissions and Registrar should specify if the address change also affects the address to which the diploma is to be mailed.
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 Graduate 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. 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;
4. The student must formally apply for the degree and pay the required fee in the Office of Admissions and Registrar no later than the deadline for the semester in which he/she intends to graduate. Deadlines are published in all class schedules;
5. The student must complete satisfactorily the comprehensive examination, except as provided by the M.B.A. degree;
6. 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;
7. 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. Credit for selected Internships and Practica in which the grade of "CR" was earned may be applied to minimum degree requirements upon approval of the Committee on Graduate Studies.
8. The student must be in good standing at the close of the semester in which the degree is to be received.

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 in which the major area is located. The Office of Admissions and Registrar evaluates transcripts and designates which graduate courses are acceptable under the above provisions for transfer toward a Master's degree 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, 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 which can 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. Upon petition by the student and recommendation of the appropriate Committee on Graduate Studies and approval by the Vice President for Academic Affairs, 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.
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 Degree-Seeking Students in the College of Business may challenge by examination 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. The only exception is that persons holding a Master of Arts degree in Art from another institution seeking admission to the Master of Fine Arts degree program may have up to 24 semester hours applied toward the M.F.A. degree exclusive of the thesis and/or degree project upon recommendation of the Division Committee on Graduate Studies and approval of the Vice President for Academic Affairs. 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 and the Vice President for Academic Affairs.

UNDERGRADUATE CREDIT NOT COUNTED TOWARD A MASTER'S DEGREE
No undergraduate semester credit hours may be applied to a Master's degree at The University of Texas at San Antonio.

CATALOG OF GRADUATION
Graduate students have six years from the term of original registration to complete a graduate degree program under the catalog in effect at the time of initial registration at UTSA provided they are continuously enrolled at UT San Antonio. If a student drops out for one or more long semesters, he/she has the option of re-enrolling under a subsequent catalog. These students will have six years to complete degree requirements under the new catalog. In the event that certain required courses are discontinued, substitutions may be authorized or required by the appropriate Committee on Graduate Studies.

COMPREHENSIVE EXAMINATION
A candidate for a Master's degree, other than candidates for the M.B.A. degree who are required to complete MGT 5903 with a grade of B or better must, in addition to all other requirements, pass a comprehensive examination which may be oral or written or both. Students must be registered during any semester or summer term that they are taking required examinations. Comprehensive examinations are given only to those students who have complied with the following requirements:
1. completed all conditions of admission, if any were assigned at the time of admission;
2. completed 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; and
6. be enrolled in 6961 Comprehensive Examination in the semester the comprehensive examination is taken if registered for no other courses that semester.

OPTIONS FOR MASTER'S DEGREES

Two options are available for most Master's Degree Programs. Students should refer to the chapter on Graduate Degree programs to determine whether a specific program offers both options.

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

Students receiving advice and assistance from a faculty member in the preparation of a thesis 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 Vice President for Academic Affairs.

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 X, approved by the appropriate Committee on Graduate Studies.

At the beginning of the student's Master's degree program he/she should, in consultation with his/her Program Advisor, select the option most suitable to his/her needs. Should a student elect to change options he/she should consult with his/her Program Advisor.

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 in the Office of the Vice President for Academic Affairs.
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 Vice President for Academic Affairs...
Affairs 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. After final approval of the thesis by the Vice President for Academic Affairs, file the unbound original copy of the thesis with the Office of the Vice President for Academic Affairs at least 10 days prior to the last day of classes of the term in which the degree is to be awarded. The copy is transmitted by the Office of the Vice President for Academic Affairs to the Library, where it is bound and retained by the Library. (A fee of $10.00 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 are the responsibility of the student. Copyright may be arranged by the author and will be at the student's expense.

APPLICATION FOR A DEGREE

It is the student's responsibility to apply officially for his or her degree at the Office of Admissions and Registrar no later than October 1 for the Fall Semester; February 1 for the Spring Semester; July 1 for the Summer Session. The application of any student applying for graduation after the established deadlines for that semester will be processed for graduation for the following semester.

Students who apply for the degree in a given term but who do not fulfill all requirements must file a new degree application (on or before the appropriate deadlines) for the next term in which they intend to graduate. An additional application fee is required for the second and all subsequent degree applications.

GRADUATION DATES

Degrees are conferred at the end of each semester and at the end of the summer session. Formal public ceremonies are held at the conclusion of the fall and spring semesters. Students who have graduated during the previous summer may participate in commencement ceremonies at the close of the fall semester. Information on the procedures to be followed is available in the Office of Admissions and Registrar. Students may not participate in ceremonies prior to their actual date of graduation.

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 degree opens up an additional area, field, or concentration;
2) that the proposed second Master's degree is approved by the appropriate Committee on Graduate Studies and the Vice President for Academic Affairs.

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 and the Vice President for Academic Affairs; an examination may be required as a condition for validating credit.

1The only exception is the M.F.A. Degree. Students should refer to "Courses Counted for Another Degree" in this section of the Catalog.
VIII
DOCTORAL
DEGREE
REGULATIONS
UNIVERSITY-WIDE REQUIREMENTS FOR THE DOCTORAL DEGREE

Residence
A student must spend at least two consecutive semesters (Fall and Spring, Summer sessions I and II and Fall, or Spring and Summer sessions I and II) in residence as a full-time student taking a minimum of nine semester credit hours each residence semester.

Transfer of Credit
Students are expected to complete all course work at The University of Texas at San Antonio. Exceptions require approval of the appropriate Committee on Graduate Studies and the Vice President for Academic Affairs.*

Correspondence and Extension Courses
Courses completed by correspondence or by extension may not be applied to a doctoral degree program.

Limitation on Undergraduate Credit Counted Toward a Doctoral Degree
Credit earned in undergraduate-level courses may not normally be applied to a doctoral degree program; such courses may be taken to meet background or support requirements, if necessary.

Grade-Point Average
A grade-point average of B (3.00 on a 4.00 scale) must be maintained in each of the following: 1) all course work completed at The University of Texas at San Antonio, 2) graduate courses in the student’s major, and 3) graduate courses in the student’s support field. In computing grade-point averages, grades from other institutions are not used.

Course Requirements
No specific number of semester credit hours of course work has been established for doctoral programs at The University of Texas at San Antonio, although advanced course work is an essential part of a doctoral candidate’s preparation. Individual doctoral programs may set minimum semester credit hour requirements for the attainment of the degree.

Support Work
In addition to courses and research in a field of specialization within the major, course work will be taken to broaden or supplement the student’s preparation. Such “support work” may consist of course work in one area or several; it may be in conference, laboratory, or problems courses; it may be a supervised activity off campus relevant to the major interest. Some portion, not necessarily all, of the support work will normally be outside the major area, unless that area is in itself of a multidisciplinary nature. At least three courses or the equivalent from outside the area of specialization generally will be required.

*At The University of Texas at San Antonio the Vice President for Academic Affairs is the administrative officer responsible for graduate education.
Language Proficiency

All students are required to possess a competent command of English. Proficiency in a foreign language is a matter of degree option. Students should refer to individual degree descriptions for English and foreign language proficiency requirements.

Registration when taking Required Examinations

Students must be registered during any semester or summer term that they are taking required examinations.

Admission to Candidacy

All students seeking a Doctoral degree at UT San Antonio must be admitted to candidacy. In order to be admitted to candidacy, the student must comply with the following requirements:

1. fulfill the requirements for unconditional admission as a Graduate Degree-Seeking Student, which entails the removal of any conditions assigned at the time of admission;
2. satisfy any Special Admission Requirements established for the degree program;
3. be in good standing;
4. have passed a qualifying examination (written, or oral, or both) prepared by the Committee on Graduate Studies for the major program and have met any other requirements specified by the Committee on Graduate Studies for the program;
5. submit a proposed Program of Study;
6. be recommended for Admission to Candidacy by the appropriate Committee on Graduate Studies, which in the case of interdisciplinary programs is a Committee appointed by the Vice President for Academic Affairs consisting of no fewer than five members of the Graduate Faculty, with at least one representative from each of the disciplines included in the program; and
7. be approved for Admission to Candidacy by the Vice President for Academic Affairs.

Program of Study

Prior to Admission to Candidacy the student's proposed Program of Study is under the direction of the Committee on Graduate Studies in the major program area through an appropriate Program Advisor, if designated, and the Graduate Advisor of Record. Upon Admission to Candidacy and the formation of the student's Dissertation Committee, the Program of Study comes under the purview of the Dissertation Committee, which reviews the proposed Program of Study and recommends to the Committee on Graduate Studies any additional course requirements. The final Program of Study, as approved by the Committee on Graduate Studies, is then recommended to the Vice President for Academic Affairs for approval. Approval of the final Program of Study by the Vice President for Academic Affairs is a degree requirement. All completed course work that is included in the final Program of Study must have been taken within the preceding eight years. No course for which a grade of less than C was earned can be applied to the graduate degree.

Comprehensive Examination

All students seeking a doctoral degree must pass a Comprehensive Examination. The Comprehensive Examination for the doctoral degree is taken upon completion of course work in the final approved Program of Study. This examination consists of questions to test the candidate's knowledge and command of the major field. An examination covering
support work is not a university-wide requirement, but may be required at the discretion of the Committee on Graduate Studies or the Dissertation Committee.

**Dissertation Committee**

Upon Admission to Candidacy and in consultation with the Graduate Advisor of Record, the student selects his/her supervising professor, with that professor's consent. The supervising professor, who chairs the Dissertation Committee, must be a Member of the Graduate Faculty of The University of Texas at San Antonio. Additional members of the Dissertation Committee are recommended by the supervising professor, in consultation with the student, to the Committee on Graduate Studies. Upon recommendation of the Committee on Graduate Studies, the Office of the Vice President for Academic Affairs appoints the Dissertation Committee. The committee must consist of at least four members, including the supervising professor, who consults with other members of the committee as work proceeds.

In addition to recommending the student’s final program of Study to the Committee on Graduate Studies and supervising the research and writing of the dissertation, the Dissertation Committee certifies to the Vice President for Academic Affairs that all degree requirements have been fulfilled.

**Doctoral Dissertation**

A dissertation is required of every candidate and must be an original contribution to scholarship, based on independent investigation in the major area. It must be approved by the Dissertation Committee. Registration for the dissertation must be for a period of more than one semester or summer session. During each semester or summer term that a student receives advice and/or assistance from a faculty member or supervision by the Dissertation Committee or uses University resources, he/she is required to enroll in the appropriate dissertation course.

**Progress Review**

If the doctoral degree is not completed within three years from the date of passing the Comprehensive Examination, the Committee on Graduate Studies will review the student’s progress at the end of the three-year period and annually thereafter. The committee may recommend that the student meet new requirements that have been adopted in the interim or take additional courses; it may also recommend that the student's Candidacy be extended one or two semesters, or that it be terminated. Recommendations of the Committee on Graduate Studies are forwarded to the Vice President for Academic Affairs.

**Final Oral Examination (Defense of Dissertation)**

A satisfactory final oral examination is required for the approval of a dissertation. After the Dissertation Committee makes a decision, which must be unanimous, to accept a dissertation for examination, the supervising professor notifies the Vice President for Academic Affairs, at least two weeks in advance, of the date of the final oral examination.

The examination covers the dissertation and the general field of the dissertation, and such other parts of the student’s program as the committee may determine. If all members of the Dissertation Committee are satisfied that the student has 1) completed the work assigned by the committee; 2) passed all examinations required by the program’s Committee on Graduate Studies, including the final oral examination; 3) completed a dissertation which is an independent investigation in the major field, and itself constitutes a contribution to knowledge; and 4) submitted for publication in *Dissertation Abstracts International* an abstract which meets with the approval of the committee, they then sign the approval
sheets for the doctoral dissertation and an official recommendation to the Vice President for Academic Affairs that the doctoral degree should be awarded. Approval must be unanimous.

Submission and Publication of Dissertation

When the student has successfully defended the dissertation, he or she must arrange for its publication, usually by microfilm reproduction of the complete dissertation. The signed original copy (unbound) of the doctoral dissertation is sent from the Office of the Vice President for Academic Affairs to the University Microfilms International, Ann Arbor, for reproduction. The student is required to pay the cost of its reproduction and subsequent binding. Other forms of publication of the dissertation may be accepted to fulfill the publication requirement. A proposal for an alternative to microfilm reproduction must be approved by the Vice President for Academic Affairs.

Publication by microfilm does not preclude subsequent publication of the dissertation, in whole or in part, as a monograph or in a journal. Registration of copyright, at the author's expense, may be arranged, if desired and appropriate, by completing a form available from the office of the Vice President for Academic Affairs. In order to protect patent or other rights, the Vice President for Academic Affairs may be requested by the student or supervising professor to delay publication for one year. This request must be supported by a written recommendation by the student's supervising professor.
IX
SUMMARY
OF
GRADUATE
DEGREE
PROGRAMS
The following graduate degree programs are available during 1991-1993. Detailed requirements for each degree are found in Section X of the present catalog.

**Master of Business Administration Degree**

Concentrations:
1. Business Economics
2. Finance
3. Information Systems
4. Management of Technology
5. Management Science

**International Business**

**Master of Professional Accounting Degree**

Concentrations:
1. Professional Accounting
2. Taxation

**Master of Public Administration Degree**

**Master of Arts Degree**

**Anthropology**

**Bicultural-Bilingual Studies**

Concentrations:
1. Bicultural-Bilingual 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 Leadership
5. Educational Psychology/Counseling and Guidance
6. Educational Psychology/Special Education
7. Adult and Higher Education

**English**

**History**

**Spanish**

Concentrations:
1. Hispanic Culture
2. Hispanic Literatures
3. Spanish Language

**Master of Fine Arts Degree**

**Art**

**Master of Music Degree**

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1. 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.
Master of Science Degree

Master of Science Degree
Biology
Biotechnology
Chemistry
Computer Science
Civil Engineering
Electrical Engineering
Environmental Sciences
Geology
Mathematics
Concentrations: (1) Mathematics
(2) Mathematics Education
(3) Statistics

Mechanical Engineering

Doctor of Philosophy Degree

Educational Leadership
(Cooperative degree with The University of Texas at Austin)

Programs leading to teacher certification or to certificate endorsements are also available, in conjunction with or independent of Master's degrees in Education.
GRADUATE DEGREE PROGRAMS AND SUPPORT COURSES
COLLEGE OF BUSINESS

The Master of Business Administration Degree is accredited by the American Assembly of Collegiate Schools of Business and conforms to its recommended guidelines.

MASTER OF BUSINESS ADMINISTRATION

The Master of Business Administration Degree is designed to offer the opportunity for 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 but are required as a condition of admission to complete, in total or in part, depending upon the background of each student, the courses of the common body of knowledge. Students whose background is in business but who have completed the common body of knowledge courses five or more years prior to entering the program will be required to complete successfully or test out of the common body of knowledge courses. The courses of the common body of knowledge are open only to graduate students and are in addition to degree requirements of the M.B.A.

All students who enter the M.B.A. degree program should have a familiarity with commonly used computer programs for spreadsheets and word processing. Special not-for-credit courses are commonly offered in the College of Business and elsewhere to address this need.

Program Admission Requirements. For unconditional admission to the M.B.A. program, applicants must meet university-wide graduate admission requirements and the following College of Business requirements.

1) An approximate overall average of 3.0 in all work completed at the undergraduate level.
2) An approximate composite score of 500 on the Graduate Management Admission Test (GMAT) with results submitted to the Office of Admissions and Registrar prior to being considered for admission.
3) Completion of the courses of the common body of knowledge or their equivalents.
4) Favorable recommendation by the M.B.A. Admissions Committee and approval by the Vice President for Academic Affairs.

Those who do not meet the admissions requirements will be considered on a conditional basis.

The following courses of the common body of knowledge are required for students with undergraduate curriculum deficiencies; however, no credit for these courses may count toward degree requirements of the M.B.A.:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 5003</td>
<td>Financial Accounting Concepts</td>
</tr>
<tr>
<td>BLW 5003</td>
<td>Legal Environment of Business</td>
</tr>
<tr>
<td>ECO 5003</td>
<td>Economic Theory and Policy</td>
</tr>
<tr>
<td>FIN 5003</td>
<td>Business Finance</td>
</tr>
<tr>
<td>IS 5003</td>
<td>Introduction to Information Systems</td>
</tr>
<tr>
<td>MGT 5003</td>
<td>Conceptual Foundations of Management</td>
</tr>
<tr>
<td>MGT 5013</td>
<td>Quantitative Methods for Business Analysis</td>
</tr>
<tr>
<td>MKT 5003</td>
<td>Introduction to Marketing</td>
</tr>
</tbody>
</table>

Degree Requirements. The M.B.A. Program requires 33 semester hours of work beyond any hours acquired in the common body of knowledge courses.

1Applications for the GMAT or information on the test may be obtained from GMAT, Educational Testing Service, P.O. Box 966R, Princeton, New Jersey 08540.
All candidates for the M.B.A. degree are required to complete successfully the following 21 semester hours.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 5023</td>
<td>Accounting Analysis for Decision Making</td>
</tr>
<tr>
<td>ECO 5023</td>
<td>Managerial Economics</td>
</tr>
<tr>
<td>FIN 5023</td>
<td>Financial Management</td>
</tr>
<tr>
<td>MGT 5023</td>
<td>Decision Analysis and Production Management</td>
</tr>
<tr>
<td>MGT 5043</td>
<td>Management and Behavior in Organizations</td>
</tr>
<tr>
<td>MKT 5903</td>
<td>Strategic Management and Policy²</td>
</tr>
</tbody>
</table>

Students for the M.B.A. degree may elect one of two options to complete the required 33 hours. Under Option 1, students are required to complete the 21 semester hours above, 6 semester hours of electives as approved by the Committee on Graduate Studies, and 6 hours of Master's Thesis. Students who wish to utilize the non-thesis option, Option II, are required to complete the 21 semester hours above and 12 semester hours of electives as approved by the Committee on Graduate Studies.

In addition to the general M.B.A., the College of Business offers students the opportunity to concentrate in a particular area. (NOTE: Students who choose to concentrate do not have the thesis option.) Areas of concentration are:

- Business Economics
- Finance
- Information Systems
- Management of Technology
- Management Science

**MASTER OF BUSINESS ADMINISTRATION DEGREE WITH A CONCENTRATION IN BUSINESS ECONOMICS**

This concentration is designed to offer the opportunity for qualified graduate students to study business administration at the graduate level with particular emphasis in business economics. It will particularly assist students in preparing for economics-related careers in the business environment and government or for graduate study in economics at the doctoral degree level.

All candidates choosing to concentrate in Business Economics must complete the 21 hours of M.B.A. core courses and 12 semester hours of electives as follows:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO 5033</td>
<td>Economic Policy and Business Issues</td>
</tr>
<tr>
<td>ECO 6103</td>
<td>Economics and Business Forecasting</td>
</tr>
<tr>
<td></td>
<td>6 semester hours of graduate economics elective courses</td>
</tr>
</tbody>
</table>

**MASTER OF BUSINESS ADMINISTRATION DEGREE WITH A CONCENTRATION IN FINANCE**

This concentration is designed to offer the opportunity for qualified graduate students to study business administration at the graduate level with particular emphasis in the area of finance. It will particularly assist students in preparing for finance-related careers in the business environment or for graduate study in finance at the doctoral degree level.

All candidates choosing to concentrate in Finance must complete the 21 hours of M.B.A. core courses and 12 semester hours of electives as follows:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGT 5903</td>
<td>Strategic Management and Policy²</td>
</tr>
</tbody>
</table>

²MGT 5903 students who earn a grade of "B" or better in the course will satisfy the comprehensive examination requirement. A student who receives a grade of "C" may still satisfy this requirement by successfully passing a comprehensive examination as set out in this catalog.
Master of Business Administration Degree With a Concentration in Finance

FIN 5633 Investment Theory and Problems
9 semester hours of graduate finance elective courses

MASTER OF BUSINESS ADMINISTRATION
DEGREE WITH A CONCENTRATION IN
INFORMATION SYSTEMS

This concentration is designed to offer the opportunity for qualified graduate students to
study business administration while developing special expertise in Information Systems.
To achieve this end, students can focus their elective courses on developing general
managerial knowledge in the design and implementation of information systems, manage-
ment of communication technologies, principles of data base management systems, and
principles of end user computing.

All candidates choosing to concentrate in Information Systems must complete the 21
hours of M.B.A. core courses and 12 semester hours of electives as follows:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS 6103</td>
<td>Information Systems Design and Implementation</td>
</tr>
<tr>
<td>IS 6403</td>
<td>Information Resource Management</td>
</tr>
<tr>
<td>IS 6703</td>
<td>Advanced Business Information Systems</td>
</tr>
</tbody>
</table>

and 3 hours from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS 6203</td>
<td>Data Communication and Network Management</td>
</tr>
<tr>
<td>IS 6503</td>
<td>Principles of Data Base Management</td>
</tr>
<tr>
<td>IS 6603</td>
<td>Seminar in Computer Security and Internal Control</td>
</tr>
<tr>
<td>IS 6803</td>
<td>Principles of End User Computing</td>
</tr>
<tr>
<td>IS 6973</td>
<td>Special Problems</td>
</tr>
</tbody>
</table>

MASTER OF BUSINESS ADMINISTRATION
DEGREE WITH A CONCENTRATION IN
MANAGEMENT OF TECHNOLOGY

This concentration is designed to offer the opportunity for qualified graduate students, primarily with a nontechnical background, to study business administration while developing special expertise in the management of technology. To achieve this end, students can focus their elective courses on developing general managerial skills applicable to technology based organizations, leading professional and technical employees, and integrating the various functions of an organization in today's rapidly changing technological environment.

All candidates choosing to concentrate in the Management of Technology must complete the 21 hours of M.B.A. core courses and 12 semester hours of electives as follows:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGT 5163</td>
<td>Management of Technology</td>
</tr>
<tr>
<td>MGT 5223</td>
<td>Management of Professional and Technical Personnel</td>
</tr>
</tbody>
</table>

and 6 hours from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS 6403</td>
<td>Information Resource Management</td>
</tr>
<tr>
<td>FIN 6113</td>
<td>Entrepreneurship and Venture Management</td>
</tr>
<tr>
<td>MGT 5213</td>
<td>Organizational Systems for Management of Technology and Innovation</td>
</tr>
<tr>
<td>MGT 5303</td>
<td>Decision Support Systems</td>
</tr>
<tr>
<td>MGT 5373</td>
<td>Simulation Analysis of Business Systems</td>
</tr>
<tr>
<td>MGT 5393</td>
<td>Production Management</td>
</tr>
<tr>
<td>MGT 5453</td>
<td>Management and Control of Quality</td>
</tr>
<tr>
<td>MGT 6933</td>
<td>Professional Report</td>
</tr>
<tr>
<td>MGT 6943</td>
<td>Management Internship</td>
</tr>
</tbody>
</table>
MKT 5053 Marketing Technological Innovations

Additionally, a student may petition to the faculty coordinating this concentration to substitute one other College of Business graduate elective in lieu of one of the above courses.

MASTER OF BUSINESS ADMINISTRATION DEGREE WITH A CONCENTRATION IN MANAGEMENT SCIENCE

This concentration is designed to offer the opportunity for qualified graduate students to study business administration while developing special expertise in management science and to synthesize the theory and fundamentals of decision analysis together with a study of current applicable technology. To achieve this end, students can focus their elective courses on the use of modern day methodologies and techniques in the analysis and support of managerial decision making activities, including the application of computer hardware and software.

All candidates choosing to concentrate in Management Science must complete the 21 hours of M.B.A. core courses and 12 semester hours of electives from the following:

- MGT 5303 Decision Support Systems
- MGT 5323 Statistical Methods for Business Analysis
- MGT 5363 Computer Graphics for Management
- MGT 5373 Simulation Analysis of Business Systems
- MGT 5383 Microcomputer Applications in Business
- MGT 5393 Production Management
- MGT 5443 Software Entrepreneurship
- MGT 5453 Management and Control of Quality

Additionally, a student may petition to the faculty coordinating this concentration to substitute one other College of Business graduate elective in lieu of one of the above courses.

MASTER OF BUSINESS ADMINISTRATION DEGREE IN INTERNATIONAL BUSINESS

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 International Business. 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. This program is designed to offer students from the United States or foreign countries the opportunity to study business administration while developing special expertise in its international aspects. To achieve this end, specific international content courses have been developed in the disciplines of management, marketing, economics, business law and finance. There may be opportunities to study outside the United States and to apply the credit earned to the degree program at UTSA. The international content courses and possibilities for foreign study are supplemented by research and workshop opportunities in the area of international business. Students entering the degree program must meet the normal admission requirements for The University and the College of Business.

Students pursuing this degree must either demonstrate proficiency in one of the modern languages or take six hours of culture courses which have been approved by the graduate advisor. The proficiency in language may be demonstrated by either completion of six hours of courses in the same language or by examination measuring proficiency at the six hour level.

Program Admission Requirements. Applicants for admission to the Master of Business Administration program in International Business are required to meet the same general
program admission requirements set out above for the Master of Business Administration Degree.

Degree Requirements. The M.B.A. program in International Business requires 33 semester hours of work beyond any hours acquired in the common body of knowledge courses. All candidates for the M.B.A. Degree in International Business must complete the following 21 semester hours:

- ACC 5023 Accounting Analysis for Decision Making
- ECO 5023 Managerial Economics
- FIN 5023 Financial Management
- MGT 5023 Decision Analysis and Production Management
- MGT 5043 Management and Behavior in Organizations
- MGT 5903 Strategic Management and Policy
- MKT 5023 Marketing Management

In addition to the above courses, students desiring an M.B.A. Degree in International Business must complete 12 semester hours from the following list of courses:

International Content Elective Courses:

- ACC 6133 Seminar in International Accounting
- BLW 5173 Legal Environment of International Business
- ECO 5303 International Trade and Finance
- FIN 5833 International Managerial Finance and Accounting
- MGT 5183 Global Management
- MKT 5673 International Marketing

Foreign course work may be taken as:

- FIN 5963 International Business Internship or
- MKT 5983 International Business Essay
- FIN 5983 International Business Essay
- MKT 5983 International Business Essay

Students choose either an elective program of 12 semester hours in international content courses as listed above or a combination of elective international content courses and foreign study as approved by the Committee on Graduate Studies. Normally the foreign study will be taken at a cooperating foreign institution. Foreign study is encouraged, and efforts will be made to assist students to complete a portion of their work outside the United States.

*MGT 5903 students who earn a grade of "B" or better in the course will satisfy the comprehensive exam nation requirement. A student who receives a grade of "C" may still satisfy this requirement by successfully passing a comprehensive examination as set out in this catalog.*
The Master of Professional Accounting (M.P.A.) Degree is designed to accommodate applicants with a degree in any field. Such applicants must complete the equivalent of a B.B.A. degree in accounting from an accredited institution or must enroll in the courses of the common body of knowledge plus certain accounting courses set out by the M.P.A. Program Coordinator. The courses of the common body of knowledge may be taken simultaneously with M.P.A. requirements, subject to course prerequisites and approval of the M.P.A. Program Coordinator.

Program Admission Requirements. In addition to satisfying the university-wide graduate admission requirements for unconditional admission, applicant seeking unconditional admission to the MPA program must meet the following requirements:

1. A baccalaureate degree in accounting from an accredited college or university in the United States or equivalent training at a foreign institution; this degree must include the equivalent of Corporate Taxation, and the equivalent of UTSA's MGT 4893 Business Policies and Management.

2. An approximate overall average of 3.0 in all work completed at the undergraduate level.

3. An approximate composite score of 500 on the Graduate Management Admission Test (GMAT) with results submitted to the Office of Admissions and Registrar prior to being considered for admission.

4. Favorable recommendation by the M.P.A. Admissions Committee and approval by the Vice President for Academic Affairs.

Those who do not meet all of the admission requirements stated above will be considered for admission on a conditional basis. All admission deficiencies must be removed before enrolling for the last semester before graduation and will be in addition to degree requirements.

The following courses, or their equivalents, are required for students with undergraduate curriculum deficiencies; however no credit for these courses may be counted toward the M.P.A. degree requirements:

- ACC 5003 Financial Accounting Concepts
- BLW 5003 Legal Environment of Business
- ECO 5003 Economic Theory and Policy
- FIN 5003 Business Finance
- IS 5003 Introduction to Information Systems
- MGT 5003 Conceptual Foundations of Management
- MGT 5013 Quantitative Methods for Business Analysis
- MKT 5003 Introduction to Marketing
- ACC 3023 Intermediate Financial Accounting
- ACC 3033 Intermediate Financial Accounting
- ACC 3113 Accounting Information Systems
- ACC 4013 Principles of Auditing
- ACC 5013 Survey of Federal Taxation of Business Entities
- ACC 5023 Accounting Analysis for Decision Making

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 30 hours.

Applications for the GMAT, or information on the test may be obtained from GMAT, Educational Testing Service, PO, Box 966R, Princeton, New Jersey 08540.
All candidates for the M.P.A. degree must select either a Professional Accounting or a Taxation concentration.

PROFESSIONAL ACCOUNTING CONCENTRATION

All candidates choosing the Professional Accounting concentration must complete:

A. 15 semester hours of required graduate accounting courses:
   ACC 5043 Advanced Auditing
   ACC 5123 Advanced Managerial Accounting Topics
   ACC 5133 Advanced Financial Accounting
   ACC 6013 Seminar in Current Accounting Theory
   ACC 6043 Comprehensive Tax and Research Problems

B. 6 semester hours of approved graduate electives in accounting\(^5\)

C. 9 semester hours of approved graduate electives of which no more than 6 hours can be in accounting or taxation\(^5\)

TAXATION CONCENTRATION

All candidates choosing the Taxation concentration must complete:

A. 6 semester hours of required graduate accounting courses:
   ACC 6013 Seminar in Current Accounting Theory
   ACC 6043 Comprehensive Tax and Research Problems

B. 15 semester hours of approved graduate tax courses\(^5\)

C. 6 semester hours of approved graduate accounting courses in an area other than taxation\(^5\)

D. 3 semester hours of approved non-accounting/tax graduate electives\(^5\)

In addition to the semester hour requirements set forth above, all candidates for the M.P.A. degree are required to pass a comprehensive examination before graduation.

COURSE DESCRIPTIONS

ACCOUNTING

(ACC)

5003 Financial Accounting Concepts
(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.

5033 Controllership (3-0)
3 hours credit. Prerequisite: ACC 3033 or the equivalent.
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 Auditing
(3-0) 3 hours credit. Prerequisite: ACC 4013 or the equivalent.
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.

\(^5\)Approval of the M.P.A. Program Coordinator is required.
5053 Nonprofit Accounting
(3-0) 3 hours credit. Prerequisite: ACC 3033 or the equivalent.
A study of accounting principles and practices of not-for-profit organizations including federal, state and local governments.

5063 Seminar in Tax Factors in Business Management
(3-0) 3 hours credit. Prerequisite: ACC 5013.
A one-semester terminal course in taxation for M.B.A. students who do not intend to solve tax problems but who desire to recognize both tax problems and opportunities in common business situations. This course cannot be applied toward the M.P.A.

5073 Managerial Accounting—Current Issues & Decision Analysis
(3-0) 3 hours credit. Prerequisite: ACC 5023 or the equivalent, or consent of instructor.
Study of contemporary issues, cost concepts, and procedures in managerial accounting to include analysis and application of techniques in the generation of data for management information systems.

5083 Seminar In Internal Auditing
(3-0) 3 hours credit. Prerequisite: ACC 4013 or the equivalent.
Case study course involving: (1) in-depth study of internal control; (2) operation auditing; (3) field studies in the San Antonio environment.

5093 Advanced Accounting Information Systems
(3-0) 3 hours credit. Prerequisite: ACC 3113 or the equivalent, or consent of instructor.
Comprehensive study of those systems which interface with the accounting function, including investigation of complex systems through analysis and flowcharting techniques, review of selected topics including: (1) information theory; (2) systems design; and (3) computer controls.

5123 Advanced Managerial Accounting Topics
(3-0) 3 hours credit. Prerequisite: ACC 5023 or the equivalent.
Advanced study of the applications of managerial accounting including cost analysis, variance analysis, pricing decisions, transfer pricing, and budgeting.

5133 Advanced Financial Accounting
(3-0) 3 hours credit. Prerequisite: ACC 3033 or the equivalent.
A study of specialized areas of financial accounting. Topics may vary depending upon current professional controversies.

5143 Budgeting and Forecasting
(3-0) 3 hours credit. Prerequisite: ACC 5023 or the equivalent.
Examines the accountant's role in budgeting and forecasting. Study of advanced forecasting techniques and applications of microcomputers and forecasting.

6013 Seminar In Current Accounting Theory
(3-0) 3 hours credit. Prerequisite: ACC 3033 or the equivalent.
A study of the nature of accounting, the nature of theory, and an explanation of the history of the development of "generally accepted accounting principles." A critical analysis of the validity of such principles. Research into the field of current accounting literature, with the objective of critically evaluating the present status and future course of accounting thought.

6023 Seminar in Contemporary Accounting Thought
(3-0) 3 hours credit. Prerequisite: ACC 3033 or the equivalent.
A study of contemporary accounting issues in accounting research; cases and readings of current accounting literature; and the development and presentation of accounting research.

6043 Comprehensive Tax and Research Problems
(3-0) 3 hours credit. Prerequisite: ACC 5013 or the equivalent.
An in-depth study of how to find answers to tax questions. Students will become acquainted with various tax materials in the library and their use, including tax services, case reports, and IRS publications.

6053 Estate, Trust and Gift Taxation and Administration
(3-0) 3 hours credit. Prerequisite: ACC 5013 or equivalent.
Emphasis on estate and gift planning and income taxation of trusts and estates. Taxation of gratuitous transfers under the federal estate and gift tax codes including inter vivos gifts,
marital deduction, powers of appointment, retained interest, the concept of distributable net income, fiduciary taxation, and the concept of an estate.

6073 Corporate Taxation (3-0)
3 hours credit. Prerequisite: ACC 5013 or equivalent.
Study of federal income taxation of corporations and shareholders, with emphasis on formation, distributions, personal holding companies, accumulated earnings tax, capital gains and losses, net operating losses, and capital and debt structure.

6083 Seminar in Advance Tax Procedural Problems
(3-0) 3 hours credit. Prerequisites: ACC 5013 or equivalent.
Advance case studies of tax audits, administrative appeals, settlement technique, appellate jurisdiction, choosing forums, ruling and technical requests, civil litigation, collection process, offers in compromise, interest and civil penalties, indirect methods of proof, criminal penalties.

6113 Partnerships and Subchapter S Corporations
(3-0) 3 hours credit. Prerequisite: ACC 5013 or equivalent.
A study of the special tax attributes of partnerships and Subchapter S corporations, with a comparison of these forms of doing business. Formation, operation, and dissolution of partnerships and Subchapter S corporations.

6123 Advanced Corporate Taxation
(3-0) 3 hours credit. Prerequisite: ACC 6043 and 6073 or consent of instructor.
Corporate liquidations, divisions and reorganizations, and consolidated tax returns.

6133 Seminar in International Accounting
(3-0) 3 hours credit. Prerequisite: 9 hours of accounting or consent of instructor.
An analysis of the issues involved in accounting for multinational corporations, including environmental influences, foreign currency translation, management accounting, and international accounting standard setting. A brief study of accounting history is included in the course.

6143 Tax Planning for Individuals
(3-0) 3 hours credit. Prerequisite: ACC 5013 or equivalent.
Examines tax-planning topics including investments (passive activity rules) and deferred compensation (qualified and nonqualified plans).

6153 Taxation of Exempt Organizations
(3-0) 3 hours credit. Prerequisite: ACC 5013 or equivalent.
Study of organizations eligible for federal tax exemption. Topics include criteria for exemption, the unrelated business income tax, distinction between public charities and private foundations, limitations on lobbying and political activities.

6163 International Taxation
(3-0) 3 hours credit. Prerequisite: ACC 5013 or equivalent.
Study of tax problems and planning with respect to international transactions of individuals and corporations. Topics include U.S. taxation of foreign individual and corporate investments in the United States; U.S. taxation of export transactions, foreign investments and U.S. persons living abroad; and analysis of applicable tax treaties.

6943 Accounting Internship
(3-0) 3 hours credit. Prerequisite: Graduate standing, 15 semester hours of upper-division accounting or equivalent.
Internship must be approved in advance by the Internship Coordinator and the Graduate Advisor of Record. Supervised full-time or part-time, off-campus training in public accounting, industry, or government. Individual conferences and written reports required.
Note: Credit hours may not be counted toward the M.P.A. degree.

6951-3 Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor, and the student’s Graduate Advisor of Record.
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.
6961 Comprehensive Examination
1 hour credit. Prerequisite: Approval of the appropriate Committee on Graduate Studies to take the Comprehensive Examination.
Independent study course for the purpose of taking the Comprehensive Examination. May be repeated as many times as approved by the Committee on Graduate Studies. Enrollment is required each term in which the Comprehensive Examination is taken if no other courses are being taken that term. The grade report for the course is either CR (satisfactory performance on the Comprehensive Examination) or NC (unsatisfactory performance on the Comprehensive Examination).

6973 Special Problems
3 hours credit. Prerequisite: Consent of instructor.
An organized course offering the opportunity for 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: Permission of the Graduate Advisor of Record and thesis director (form available).
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
INFORMATION SYSTEMS
(IS)

5003 Introduction to Information Systems
(3-0) 3 hours credit.
A conceptual study of information systems in organizations. A survey of IS concepts will be presented including: a historical perspective of IS, the structure of the IS function, an introduction to Information Systems technologies (hardware and software), application planning, system development, end user computing, decision support systems, and the management of IS resources. Small cases and application problems which illustrate the concepts studied will be assigned.

6103 Information Systems Design and Implementation
(3-0) 3 hours credit. Prerequisite: IS 5003 or consent of instructor.
The course integrates the areas of computer technology, systems analysis, and systems design in designing large scale application or decision support systems. A strong introduction to the formalization of the information systems design process is provided. The course explores state-of-the-art systems design and specification techniques. The course stresses the frontiers of knowledge in the specification, design, implementation, and testing of information systems.

6203 Data Communication and Network Management
(3-0) 3 hours credit. Consent of instructor.
Emphasis is on the impact of communications technology on information systems and the firm. Major topics include communication concepts, network architectures, data communications software and hardware, distributed information systems, and communication services. Network management and managing the new technologies are also emphasized.

6403 Information Resource Management
(3-0) 3 hours credit. Prerequisite: Consent of Instructor.
Study of the problems and techniques associated with managing information resources. Topics analyzed include IS project planning and control, staffing and costing alternatives. The role of the IS function in relation to the business firm will also be studied.

6503 Principles of Data Base Management
(3-0) 3 hours credit. Prerequisite: IS 5003 or consent of instructor.
Discussion and in-depth analysis of topics associated with the definition, creation, and management of data bases for business oriented applications. Topics will include current
developments in the field of data base management systems. Design of a data base system and implementation of the design will be done as a major project in the course.

6603 Seminar in Computer Security and Internal Control
(3-0) 3 hours credit. Prerequisite: IS 5003 or consent of instructor.
In-depth analysis of topics related to control and security during system development and operation of information systems. Emphasis will be on techniques associated with control and security requirements in information systems.

6703 Advanced Business Information Systems
(3-0) 3 hours credit. Prerequisite: IS 6103 or consent of instructor.
Study of computer-based technologies for facilitating the analysis and evaluation of complex problems. Topics include a review of decision analysis, and a discussion of representations and the modeling process. General concepts of artificial intelligence will be examined as the foundation for designing computer-based information systems which support strategic planning and managerial control. Methods and principles of knowledge engineering will be explored.

6803 Principles of End User Computing
(3-0) 3 hours credit. Prerequisite: IS 5003 or consent of instructor.
A study of the management, applications, and relevant technologies related to end user computing. Topics include application development in an end user environment; structure, management, and support for end user computing; the information center; personal computing; communications and networking; data and decision support applications of end user computing; and nonclerical office automation.

6951-3 Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor and the student's Graduate Advisor of Record. 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.

6973 Special Problems
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. Special Problems 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.
DIVISION OF ECONOMICS AND FINANCE

COURSE DESCRIPTIONS

BUSINESS LAW
(Blw)

5003 Legal Environment of Business
(3-0) 3 hours credit.
Study of the socio-economic, political, ethical, and legal environment of business. Topics include the development of law, court systems, business torts and crimes, corporate social responsibilities to the consuming public, employees, and competitors; real and personal property transactions; and the governmental regulations of business.

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

5913 Antitrust—Legal and Economic Analysis
(3-0) 3 hours credit. Prerequisite: ECO 5003 or the equivalent.
A study of cases and materials dealing with the historical economic development of antitrust legislation and the jurisprudential regulation of the economic market structures through legislation and the court system.

COURSE DESCRIPTIONS

ECONOMICS
(ECO)

5003 Economic Theory and Policy
(3-0) 3 hours credit.
The opportunity for 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 Economic Policy and Business Issues
(3-0) 3 hours credit. Prerequisite: ECO 5003 or equivalent.
Foundation and developments in theory and stabilization policies regarding business cycles, inflation, productivity, and unemployment. Static and dynamic approaches to investment and monetary systems with implications for trade and exchange rates.

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.

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.
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.

6103 Economic and Business Forecasting
(3-0) 3 hours credit. Prerequisite: ECO 5003 and MGT 5013 or their equivalents or consent of instructor.
An examination of forecasting methods and a discussion of their application in the business world.

6203 Government and Business
(3-0) 3 hours credit. Prerequisite: ECO 5003 or the equivalent.

6313 Managerial 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 Employment and Training Policy
(3-0) 3 hours credit. Prerequisite: ECO 5003 or the equivalent.
Study of the effects of monetary, fiscal, and human resource development policies on the supply and demand for labor and on the efficiency of labor market mechanisms. Evaluation of present employment and training policies. Forecasts of the impact of present policies on American industry and on State and local labor markets.

6553 Urban and Regional Economics
(3-0) 3 hours credit. Prerequisite: ECO 5003 or the equivalent or consent of instructor.
Economic aspects of regions and their cities, including growth and development processes; data sources and analytical methods; and analysis of urban issues such as transportation, land use, pollution, and public sector service delivery.

6953 Independent Study
3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor and the student’s Graduate Advisor of Record.
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.

6973 Special Problems
3 hours credit. Prerequisite: Consent of instructor.
An organized course offering the opportunity for 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. Prerequisite: Permission of the Graduate Advisor of Record 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.
5003 Business Finance  
(3-0) 3 hours credit. Prerequisite: ACC 5003 or the equivalent. 
The opportunity for 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. Credit cannot be earned for both FIN 5023 and FIN 5043.

5033 Cases In Financial Management  
(3-0) 3 hours credit. Prerequisite: FIN 5023 or the equivalent. 
A case approach will be used to illustrate the applications of financial management to actual business situations as well as to integrate the different topical areas. The primary areas of focus will include planning, current asset management, capital budgeting, mergers and acquisitions, and financing alternatives.

5043 Budgeting and Finance In the Public Sector  
(3-0) 3 hours credit. 
An examination of public finance and budgeting. Concepts of public goods, analysis of public expenditures, concepts of capital budgeting, public budgeting techniques, assessment of taxation structures and other revenue sources, and intergovernmental fiscal relations. Credit cannot be earned for both FIN 5023 and FIN 5043.

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.

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 Operations 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. 
The techniques and issues involved in making long-term capital investment decisions. Topics include the concepts of the cost of capital and financial structure and how they relate to the capital budgeting decision, dividend policy, risk assessment and management, forecasting, and cash flow analysis.

5833 International Financial Management  
(3-0) 3 hours credit. Prerequisite: Fin 5023 or the equivalent. 
The theory of business finance as applied to the operations of multinational firms. The determinants of exchange rates and the management of exchange rate risk are analyzed in terms of their impact on how a multinational corporation functions in the international setting. Topics include the financial analysis and control of foreign investment decisions, management of working capital, participation in the international capital markets, financing of international trade and management of corporate risk.
5913 **Portfolio Theory and Efficient Capital Markets**  
(3-0) 3 hours credit. Prerequisite: FIN 5633 or the equivalent.  
A comprehensive survey of 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 markets and its implications on the analysis of securities and portfolio management.

5963 **International Business Internship**  
3 hours credit. Prerequisites: Consent of the instructor and the Graduate Advisor of Record.  
Opportunity for work experience in international business or public agency.

5983 **International Business Essay**  
3 hours credit. Prerequisites: Consent of the instructor and the Graduate Advisor of Record.  
Opportunity for work experience in international management topic.

6113 **Entrepreneurship and Venture Management**  
(3-0) 3 hours credit. Prerequisite: Except for MGT 5903, students must have only electives left in their program of study.  
An examination of problems faced in start-up and early stages of growth by business firms having significant growth potential.

6953 **Independent Study**  
3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor and the student's Graduate Advisor of Record.  
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.

6973 **Special Problems**  
3 hours credit. Prerequisite: Consent of instructor.  
An organized course offering the opportunity for 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: Permission of the Graduate Advisor of Record and thesis director.  
Thesis research and preparation. May be repeated for credit, but not more than 6 hours will apply for 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 MANAGEMENT AND MARKETING

COURSE DESCRIPTIONS

MANAGEMENT

(MGT)

5003 Conceptual Foundations of Management
(3-0) 3 hours credit.
This course examines the evolution and development of conceptual frameworks for understanding managerial work and organizational processes within the context of changing environments. An integrated strategic management perspective is emphasized.

5013 Quantitative Methods for Business Analysis
(3-0) 3 hours credit. Prerequisites: MAT 1033 and STA 1063 or their equivalents, or consent of instructor.
Introduction to managerial decision analysis using quantitative and statistical tools. Topics include a general framework for decision analysis, decision tables and trees, simulation, linear programming and related techniques, classical optimization, forecasting and statistical techniques. Uses applicable decision support software.

5023 Decision Analysis and Production Management
(3-0) 3 hours credit. Prerequisite: MGT 5013 or its equivalent.
Study of applications of quantitative approaches (such as probabilistic, programming, and simulation) to business decision analyses. Emphasis is given to production management applications (such as resource allocation, scheduling, inventory control, capital budgeting, etc.) and the use of computerized decision support systems.

5043 Management and Behavior in Organizations
(3-0) 3 hours credit. Prerequisite: MGT 5003 or the equivalent.
This course examines the processes and techniques used to get work done through others in an organization. These processes include a study of individual differences, motivation, leadership, group behavior, interpersonal communication, decision-making, and change. Cross-cultural applications are considered.

5053 Organizational Communication
(3-0) 3 hours credit. Prerequisite: MGT 5043.
A survey of theoretical and functional aspects of organizational communication stressing interpersonal, intra- and interorganizational, and intercultural communication.

5073 Interpersonal Communication in Organizations
(3-0) 3 hours credit. Prerequisite: MGT 5043.
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.

5153 Social Issues in Business
(3-0) 3 hours credit. Prerequisite: MGT 5043.
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.

5163 Management of Technology
(3-0) 3 hours credit. Prerequisite: MGT 5043 or consent of instructor.
Examines a broad range of topics and issues involved in the management of technology including the international R & D environment and infrastructure; government, industry and university roles in technology development; managing the R & D function; technology forecasting and assessment; and new product development.

5183 Global Management
(3-0) 3 hours credit. Prerequisite: MGT 5043 or consent of instructor.
Examination of management challenges facing multinational and international business. Includes the study of organization options, staffing, communication, multi-cultural negotiations and political risk. Emphasis on different countries’ approach to competing, notably East Asia, Mexico and Europe.
Managerial Strategy and Systems (3-0) 3 hours credit. Prerequisite: Semester of graduation or consent of graduate advisor. Development of a conceptual framework for strategy, its definition, elements, and relationships to the basic functions of managing. Considers the impact of technological and other environmental forces on strategic management of the organization.

Organizational Systems for Management of Technology and Innovation (3-0) 3 hours credit. Prerequisite: MGT 5043 or consent of instructor. Focuses on organizational systems commonly found in modern organizations dealing with technology, innovation, and creativity. Considers alternative organizing concepts, interfacing and integrating considerations, and decision-making and control systems.

Management of Professional and Technical Personnel (3-0) 3 hours credit. Prerequisite: MGT 5043 or consent of instructor. The study of behavior in professional and technical organizations. Focuses on the characteristics of professional and technical personnel, status and role systems within the professional organization, and communication and conflict within and between professional groups.

Decision Support Systems (3-0) 3 hours credit. Prerequisite: MGT 5023. Study of systems for supporting managerial and personal/professional decision processes. Topics include review of sample decision support systems, methodologies for identifying decision needs, exploration of analysis tools and related computer technologies and software, survey of expert systems and artificial intelligence applications, and hands-on building of systems.

Statistical Methods for Business Analysis (3-0) 3 hours credit. Prerequisites: MGT 5013. Introduction to multi-variate statistical analysis. Topics include multiple regression, analysis of variance, discriminant analysis, conjoint analysis, and factor analysis. Emphasizes the use of computer statistical packages.

Small Business Development and Operation (3-0) 3 hours credit. Prerequisite: MGT 5043 or consent of the instructor. Includes the development of new business organizations, joint ventures, mergers and acquisition, and new products services. Conceptualization of the managerial role in emerging enterprises.

Computer Graphics for Management (3-0) 3 hours credit. Prerequisite: MGT 5023. Survey of the hardware and software available for computer graphics applications in business and industry. Study of business graphics, presentation graphics, and special purpose graphics (CAD, simulation animation, illustration, desktop publishing, graphic interfaces, etc.). Emphasis is given to managerial applications of graphic displays of information.

Simulation Analysis of Business Systems (3-0) 3 hours credit. Prerequisite: MGT 5023. Study of computer simulation techniques in the analysis of business decision situations. Currently available tools such as GPSS, SIMSCRIPT, SIMFACTORY and spreadsheet simulations will be explored. The use of computer simulation in professional development will also be explored. Applications from a wide spectrum of areas will be discussed.

Microcomputer Applications in Business (3-0) 3 hours credit. Prerequisite: MGT 5013 or its equivalent. Survey of microcomputer hardware, software, and applications. Emphasis on available financial planning, word processing, graphics, desktop publishing, networking, program generation, data base systems, expert systems, communications, and their applications in business.

Production Management (3-0) 3 hours credit. Prerequisites: MGT 5023. 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.
5443 **Software Entrepreneurship**  
(3-0) 3 hours credit. Prerequisite: MGT 5013, or its equivalent, and MGT 5383.  
Study of the business of commercial software development and the processes for moving  
computer software from design to implementation and, subsequently, to the marketplace.  
Topics will include surveying existing software and hardware, legal considerations, packaging  
and documentation, and economics of software development and marketing alternatives.  
Emphasis will be given to actual software development during this course.

5453 **Management and Control of Quality**  
(3-0) 3 hours credit. Prerequisite: MGT 5023.  
An examination of the fundamental nature of quality assurance, its strategic importance in  
business and industry, and the economic impact of quality. Theoretical and management  
issues relating to quality problem solving are emphasized. The contribution of the leaders in  
modern quality management are discussed.

5623 **Industrial Relations**  
(3-0) 3 hours credit. Prerequisite: MGT 5043, or consent of instructor.  
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 5043, or consent of instructor.  
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 procurement, 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.

5723 **Labor Relations in the Public Sector**  
(3-0) 3 hours credit. Prerequisite: MGT 5043, or consent of instructor.  
An analysis of the unique role of labor relations at the federal, state and local level. Considera-  
tion will be given to relevant legislation and how and why public employees 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.

5803 **Contemporary Issues in Management**  
(3-0) 3 hours credit. Prerequisite: MGT 5043 or consent of instructor.  
An examination of current events or emerging topics that impact managerial and organiza-
tional performance in today’s dynamic environment. May be repeated for credit when topics  
vary.

5903 **Strategic Management and Policy**  
(3-0) 3 hours credit. Prerequisite: Semester of graduation or consent of the graduate advisor.  
A course intended to integrate material taken in the M.B.A. program, as well as to broaden the  
horizons of the student beyond the focus on the firm. The macro-economic aspects of the  
economy and contemporary problems and trends of business are covered.

6933 **Professional Report**  
(3-0) 3 hours credit. Prerequisite: Permission of the Graduate Advisor and the Faculty Advisor/  
Director.  
Research and preparation of an in-depth study of a complex business problem. Credit will be  
awarded upon completion of the professional report.

6943 **Management Internship**  
(3-0) 3 hours credit. Prerequisites: Graduate standing, 15 semester hours of graduate work  
and consent of instructor.  
Internship must be approved in advance by the Internship Coordinator and the student’s  
Graduate Advisor of Record. Supervised full-time or part-time off-campus work experience  
and training in management. Individual conferences and written reports required.

6953 **Independent Study**  
3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of  
the instructor and the student’s Graduate Advisor of Record.  
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.

6961 Comprehensive Examination
1 hour credit. Prerequisite: Approval of the appropriate Committee on Graduate Studies to take the Comprehensive Examination.
Independent study course for the purpose of taking the Comprehensive Examination. May be repeated as many times as approved by the Committee on Graduate Studies. Enrollment is required each term in which the Comprehensive Examination is taken if no other courses are being taken that term. The grade report for the course is either CR (satisfactory performance on the Comprehensive Examination) or NC (unsatisfactory performance on the Comprehensive Examination).

6973 Special Problems
3 hours credit. Prerequisite: Consent of instructor.
An organized course offering the opportunity for 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
(3-0) 3 hours credit. Prerequisite: 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
MARKETING
(MKT)

5003 Introduction to Marketing
(3-0) 3 hours credit.
Examination of marketing in society and the firm. Functions, institutions, processes, methods and issues will be examined. Emphasis will be on marketing decision-making.

5023 Marketing Management
(3-0) 3 hours credit. Prerequisites: MKT 5003, ECO 5023 and FIN 5023 (FIN 5023 may be taken concurrently with MKT 5023).
An analysis of marketing management processes within organizations. Focus is on the use of strategic planning and market analysis to design marketing programs in competitive environments.

5043 Consumer Behavior in Marketing Strategy
(3-0) 3 hours credit. Prerequisite: MKT 5023 or the equivalent.
The study of consumer behavior as the basis for marketing opportunities. Analyzes and evaluates contemporary models of consumer behavior as a guide to organizational decision-making.

5053 Marketing Technological Innovations
(3-0) 3 hours credit. Prerequisite: MKT 5023 or consent of instructor.
An analysis of the role of technology and innovation in modern business practice. Emphasis is placed on managing technological change to develop business opportunities and competitive advantage.

5063 Marketing Research Design and Application
(3-0) 3 hours credit. Prerequisites: MKT 5023 and MGT 5013, or their equivalents.
Analysis of the research function as the means to fulfill marketing's role of satisfying consumer wants. Reviews methodology used for conducting, analyzing and reporting marketing research.

5083 Promotion Management
(3-0) 3 hours credit. Prerequisite: MKT 5023 or the equivalent.
Use of communication processes and programs to attain promotional goals; examination of mass and interpersonal forms of communication and the uses of sales promotion tools.
5123 Management of the Sales Force
(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.

5673 International Marketing
(3-0) 3 hours credit. Prerequisite: MKT 5023 or the equivalent.
Analysis of global marketing strategies including an examination of the cultural, economic, and political dimensions. Focus is on developing alternative market entry strategies as well as managing longer-term competitive marketing adjustments.

5963 International Business Internship
3 hours credit. Prerequisites: Consent of the instructor and the student’s Graduate Advisor of Record.
Work experience in international business or public agency.

5983 International Business Essay
3 hours credit. Prerequisites: Consent of the instructor and the student’s Graduate Advisor of Record.
Original research report on international management topic.

6951-3 Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor and the student’s Graduate Advisor of Record.
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 no more than 6 hours, regardless of discipline, will apply to the Master’s degree.

6973 Special Problems
3 hours credit. Prerequisite: Consent of instructor.
An organized course offering the opportunity for 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. Prerequisite: Permission of the Graduate Advisor of Record and thesis director.
Theis 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.
COLLEGE OF FINE ARTS AND HUMANITIES
DIVISION OF ART AND ARCHITECTURE
MASTER OF FINE ARTS DEGREE

The Master of Fine Arts degree is the terminal degree in the field of studio art. The M.F.A. Program of the Division of Art and Architecture is fully accredited by the National Association of Schools of Art and Design. Graduate study in the M.F.A. Program is much more than a mere continuation of undergraduate work and should be considered only by those students with the capacity for successful independent thought and investigation. Technical competence in the area of concentration is expected upon admittance. The emphasis in the M.F.A. Program is on conceptual development and its harmony with formal concerns. The objective of this degree is to offer the opportunity for advanced study in the field of art in preparation for careers as practicing artists, as artist teachers at the college or university level, or as professionals in other art-related enterprises.

Program 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 must have completed a minimum of 45 semester hours in studio art and 15 semester hours in art history.

Applicants who do not meet the M.F.A. Program admission requirements should consult the catalog for the criteria for admission as Special Graduate Students.

In addition to filing the regular University application for admission, all applicants must submit to the Division of Art and Architecture for evaluation twenty slides (35mm) of their most current work (no portfolios unless requested), a statement describing the objectives of proposed graduate study, and three letters of recommendation (forms available). The slides, statement, and letters are to be sent to the Art Advisor of The Division of Art and Architecture.

NOTE: Due to the format of studio laboratory art courses, auditing is not permitted.

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. Full-time enrollment of nine or more semester hours during regular semesters is expected of degree-seeking students. In addition to satisfying all university-wide requirements, M.F.A. students must pass the first semester review of their progress for continuance in the M.F.A. Program. Other qualifying examinations may be required.

Major field (ceramics, drawing, painting, photography, printmaking, or sculpture) and Graduate Studio Seminar. 30 hours

Electives in the Division of Art and Architecture. (12 hours must be selected in studio art courses outside the major field) 15 hours

Art history and criticism including AHC 5123 12 hours

ART 6843—Master of Fine Arts Exhibition. (If this work is not completed in one semester a grade of "RP" will be given indicating "research in progress." The student must register for the course for the additional semester or semesters necessary to bring the work to completion, at which time a letter grade will be recorded. Only three semester hours of credit will apply to the degree.
required regardless of the number of semesters a student enrolls in the course.)

60 hours

COURSE DESCRIPTIONS
ART

5153 Painting
(0-6) 3 hours credit. Prerequisite: B.F.A. or equivalent.
Concerned with the development of personal imagery as well as the broader understanding of painting traditions. May be repeated for credit.

5253 Drawing
(0-6) 3 hours credit. Prerequisite: B.F.A. or equivalent.
Emphasis on traditional and contemporary drawing problems including various approaches for the development of imagery. May be repeated for credit.

5353 Printmaking
(0-6) 3 hours credit. Prerequisite: B.F.A. or equivalent.
Emphasis on intaglio, lithography, monotype, relief, and photo processes in black and white and color. Experimentation in processes and imagery is encouraged. May be repeated for credit.

5453 Photography
(0-6) 3 hours credit. Prerequisite: B.F.A. or equivalent.
Emphasis on the medium as an art form including black and white, color, and nonsilver processes. May be repeated for credit.

5553 Sculpture
(0-6) 3 hours credit. Prerequisite: B.F.A. or equivalent.
Emphasis on the creative development of sculptural ideas in a variety of materials and technical methods and approaches. May be repeated for credit.

5753 Ceramics
(0-6) 3 hours credit. Prerequisite: B.F.A. or equivalent.
Emphasis on the discipline as an expressive art form using a variety of technical processes and materials and approaches to ceramics. May be repeated for credit.

6013 Practicum in the Visual Arts
3 hours credit. Prerequisite: Consent of instructor.
Student will participate in projects on an individual basis. These may include community-oriented activities such as workshops for community centers, special art programs for public or private educational organizations, service projects for displays, murals and exhibitions for special environments, and supervised assistance in instructional activities. The instructor will supervise and evaluate the student's activities. May be repeated for credit once.

6023 Graduate Studio Seminar
3 hours credit. Prerequisite: Graduate standing.
An organized class concerned with the exploration of current formal and conceptual problems in art through discussions, critiques, and work executed for the class in the student's major field: painting, drawing, printmaking, sculpture, photography, or ceramics. No more than 15 semester hours may be applied toward degree requirements.

6843 Master of Fine Arts Exhibition
3 hours credit. Prerequisite: Completion of studio course requirements in the major.
Concentrated studio activity in the major field of study emphasizing preparation of work for the concluding exhibition in consultation with the Graduate Advisor of Record and upon approval of the Graduate Studies Committee in the program. Enrollment is required each term in which the exhibition is in progress.

6953 Independent Study
3 hours credit. Prerequisite: Graduate standing and permission in writing (form available) of the instructor, and the student's Graduate Advisor of Record.
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 of Fine Arts degree.

6961 Comprehensive Examination
1 hour credit. Prerequisite: Approval of the appropriate Committee on Graduate Studies to take the Comprehensive Examination.
Independent study course for the purpose of taking the Comprehensive Examination. May be repeated as many times as approved by the Committee on Graduate Studies. Enrollment is required each term in which the Comprehensive Examination is taken if no other courses are being taken that term. The grade report for the course is either CR (satisfactory performance on the Comprehensive Examination) or NC (unsatisfactory performance on the Comprehensive Examination).

6973 Special Problems
3 hours credit. Prerequisite: Consent of instructor.
An organized course offering the opportunity for 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
ART HISTORY AND CRITICISM
(AHC)

5123 Seminar in Research Methods and Writing
(3-0) 3 hours credit. Prerequisite: Graduate standing.
A basic methodology course designed to offer the opportunity for the graduate student to gain an introduction to all facets of the discipline of Art History and Criticism, including research, documentation, historical, and critical writing.

5813 Topics in Art History
(3-0) 3 hours credit. Prerequisites: Graduate standing and AHC 5123.
A course designed to deal with specialized areas in art history. May be repeated for credit as topics vary.

6813 Practicum In Art History and Criticism
3 hours credit. Prerequisite: Graduate standing, consent of instructor, and AHC 5123.
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 information 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.

6833 Art Gallery and Museum Practices
3 hours credit. Prerequisite: Graduate standing, consent of instructor and AHC 5123.
Students will be offered an introduction to the organization and operation of gallery and/or museum activities; cataloging, research, and preparation and installation of art exhibitions.

6913 Seminar in Art History
(3-D) 3 hours credit. Prerequisite: Graduate Standing and AHC 5123.
A research course dealing with a particular problem or aspect of Art History. May be repeated when topics vary.

6953 Independent Study
3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor and the student’s Graduate Advisor of Record.
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.
DIVISION OF ENGLISH, CLASSICS, AND PHILOSOPHY

MASTER OF ARTS DEGREE IN ENGLISH

The Master of Arts Degree in English offers the student an opportunity to acquire a general knowledge of English and American literature, to understand the historical context in which that literature was produced, to develop skills in critical analysis, and to investigate the principal kinds of literary, rhetorical, and linguistic research.

Program 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. The applicant must submit scores from the Graduate Record Examination Aptitude Test (GRE). These scores will be used as one element in the evaluation of the applicant. These requirements may be waived in unusual circumstances upon the approval of the Committee on Graduate Studies.

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 distributed as follows:
   1. Core Courses—6 semester hours required
      ENG 5013 Introduction to the Graduate Study of Literature
      ENG 5053 Topics in Genre Study (3 hours)
   2. Historical Periods—9 semester hours required
      ENG 5223 Medieval Literature
      ENG 5313 Renaissance Literature
      ENG 5413 Restoration and Eighteenth-Century Literature
      ENG 5513 Romantic and Victorian Literature
      ENG 5613 Nineteenth-Century American Literature
      ENG 5733 Twentieth-Century British and American Literature I
         OR
      ENG 5743 Twentieth-Century British and American Literature II
   3. Major Authors—6 semester hours required
      ENG 5213 Chaucer Studies
      ENG 5323 Shakespeare Studies
      ENG 5343 Milton Studies
   4. 3 semester hours required from any one of the following groups:
      a. Literary Studies
         ENG 5073 Topics in Individual Authors
         ENG 5123 Theory of Literature
         ENG 5173 Theory and Practice of Teaching Literature
         ENG 5633 Topics in the Study of Literature
      b. Language
         ENG 5813 History of the English Language
         ENG 5823 Principles of English Linguistics
      c. Rhetoric and Writing
         ENG 5133 Contemporary Rhetorical Theory
         ENG 5143 Creative Writing: Fiction
         ENG 5153 Creative Writing: Poetry
         ENG 5163 Topics in Professional Writing
         ENG 5183 Theory and Practice of Teaching Composition
B. 12 semester hours of electives in English or with the approval of the Committee on Graduate Studies, in a related discipline as part of a coherent program of study.

Composition and Rhetoric Emphasis. Students who wish to emphasize composition and rhetoric should take ENG 5133 under category A.4 above; 9 hours of their electives should be from Rhetoric and Writing and Language; the remaining 3 hours should be in literature. Students should declare their intention to pursue a composition and rhetoric emphasis in their Program of Study.

Creative Writing Emphasis. Students who wish to emphasize creative writing should take either ENG 5143 or ENG 5153 under category A.4 above. The 12 elective hours should be distributed as follows:

a. 3 hours in ENG 5143 or ENG 5153
b. 3 hours in ENG 6143
c. 3 hours in literature
d. 3 additional hours in English

Students should declare their intention to pursue a creative writing emphasis in their 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 comprehensive 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.

COURSE DESCRIPTIONS

ENGLISH

(ENG)

5013 Introduction to the Graduate Study of Literature
(3-0) 3 hours credit.
Introduction to the premises, concepts, and methods of literary study, including literary history, terminology, bibliography, and various critical approaches to literature. Normally the course will be taken in the first 12 hours of the student's graduate program.

5053 Topics In Literary Genres
(3-0) 3 hours credit.
Consideration of texts selected to illustrate the structural and conceptual properties of a given genre, e.g., poetry, fiction, or drama. May be repeated for credit when topics vary.

5073 Topics In Individual Authors
(3-0) 3 hours credit.
Reading and analysis of the works of one or more major authors. May be repeated for credit when authors vary.

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.

5133 Contemporary Rhetorical Theory
(3-0) 3 hours credit.
Study of contemporary theories of writing and their historical development.

5143 Creative Writing: Fiction
(3-0) 3 hours credit. Prerequisite: Consent of Instructor.
Intensive workshop in creative writing for students interested in developing their ability to write
fiction. May be repeated for credit, but not more than 6 hours of ENG 5143, ENG 5153, or a combination of ENG 5143 and ENG 5153, will apply to the Master's Degree.

5153 Creative Writing: Poetry
(3-0) 3 hours credit. Prerequisite: Consent of Instructor.
Intensive workshop in creative writing for students interested in developing their ability to write poetry. May be repeated for credit, but not more than 6 hours of ENG 5143, ENG 5153, or a combination of ENG 5143 and ENG 5153, will apply to the Master's Degree.

5163 Topics In Professional Writing
(3-0) 3 hours credit.
Workshops for students interested in developing skills in various types of professional writing such as business writing and technical writing. May be repeated for credit when topics vary.

5173 Theory and Practice of Teaching Literature
(3-0) 3 hours credit.
Discussion of literary interpretations which illuminate classic and contemporary texts to form the basis of teaching. Applications of theory and research to the teaching of literature.

5183 Theory and Practice of Teaching Composition
(3-0) 3 hours credit.
Survey of rhetorical principles as related to student writing. Applications of theory and research to the teaching of composition.

5213 Chaucer Studies
(3-0) 3 hours credit.
Critical study of Chaucer's major poetry in the context of his times. To be read in Middle English.

5223 Medieval Literature
(3-0) 3 hours credit.
Critical study of major works from the Anglo-Saxon period through the fifteenth century, excluding Chaucer. Some readings in modern translation, some in Middle English.

5313 Renaissance Literature
(3-0) 3 hours credit.
Critical survey of verse, drama, and prose of the sixteenth and seventeenth centuries, excluding Shakespeare and Milton; emphasis on writers such as Spenser, Marlowe, Donne, Jonson, Herbert, and Marvell.

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

5343 Milton Studies
(3-0) 3 hours credit.
Reading and analysis of the major poems and selected prose.

5413 Restoration and Eighteenth-Century Literature
(3-0) 3 hours credit.
Study of the transition from Neo-classicism to Romanticism; emphasis on writers such as Dryden, Pope, Swift, Thomson, Fielding, Johnson, and Burns.

5513 Romantic and Victorian Literature
(3-0) 3 hours credit.
Reading and analysis of verse and prose of major nineteenth-century writers; emphasis on writers such as Austen, Wordsworth, Coleridge, Scott, Tennyson, Eliot, Arnold, and Dickens.

5613 Nineteenth-Century American Literature
(3-0) 3 hours credit.
Reading and analysis of verse and prose of nineteenth-century American writers; emphasis on writers such as Hawthorne, Emerson, Thoreau, Melville, Dickinson, Whitman, and Twain.

5633 Topics In the Study of Literature
(3-0) 3 hours credit.
Exploration of the ways that important texts, theories, or cultural or intellectual movements have shaped the study of literature and literary forms. May be repeated for credit when topics vary, but not more than 6 hours will apply to the Master's Degree.
5733 Twentieth-Century British and American Literature I
(3-0) 3 hours credit.
Critical survey of British and American poetry, fiction, and drama from 1900 to 1940; emphasis on writers such as Eliot, Joyce, Woolf, O'Neill, Faulkner, Lawrence, Hemingway, and Thomas.

5743 Twentieth-Century British and American Literature II
(3-0) 3 hours credit.
Critical survey of British and American poetry, fiction, and drama from 1940 to the present emphasis on writers such as Nabokov, Bellow, Singer, Miller, Beckett, Lowell, Plath, Ellison, and Lessing.

5813 History of the English Language
(3-0) 3 hours credit.
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 Principles of English Linguistics
(3-0) 3 hours credit.
Introduction to the principles of English phonology, syntax, morphology, semantics, and pragmatics.

6143 Tutorial in Creative Writing
3 hours credit. Prerequisite: 6 hours of ENG 5143 and/or ENG 5153 and permission of the Instructor and the Graduate Advisor of Record.
Concentrated work on a creative writing project.

6951 or 6953 Independent Study
1 or 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the Instructor and the Graduate Advisor of Record.
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.

6961 Comprehensive Examination
1 hour credit. Prerequisite: Approval of the appropriate Committee on Graduate Studies to take the Comprehensive Examination.
Independent study course for the purpose of taking the Comprehensive Examination. May be repeated as many times as approved by the Committee on Graduate Studies. Enrollment is required each term in which the Comprehensive Examination is taken if no other courses are being taken that term. The grade report for the course is either CR (satisfactory performance on the Comprehensive Examination) or NC (unsatisfactory performance on the Comprehensive Examination).

6973 Special Problems
3 hours credit. Prerequisite: Consent of Instructor.
An organized course offering the opportunity for 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.
The Master of Arts Degree in Spanish offers the student an opportunity for 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 offer an opportunity to further the student's grasp of the Spanish language in its geographical, cultural, and social variations. Within the M.A. degree in Spanish, concentrations are offered in Hispanic Culture, Hispanic Literatures, and Spanish Language.

Program 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 a demonstrably adequate command of both written and oral Spanish.

A grade-point average of 3.00 (on a 4.00 scale) is required in course work in Spanish, and applicants must submit a writing sample in Spanish and a score on the Oral Proficiency Interview (OPI) Test.

Degree Requirements. The 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. 18 semester hours of core courses in the major.
   SPN 5003 Hispanic Cultural Periods and Traditions I
   SPN 5013 Hispanic Cultural Periods and Traditions II
   SPN 5203 Hispanic Literary Traditions I
   SPN 5213 Hispanic Literary Traditions II
   SPN 5843 History of the Spanish Language
   SPN 5863 Spanish Phonetics and Phonology

B. 6 semester hours of concentration courses, elected from one of the concentration areas.
   Hispanic Culture:
   1. SPN 5413 History of Ideas in the Hispanic World
   2. SPN 5463 Spanish Civilization
      or
      SPN 5473 Spanish-American Civilization
   Hispanic Literatures:
   1. SPN 5633 Spanish Golden Age Literature
      or
      SPN 5643 Don Quijote
   2. SPN 5703 Modern Spanish Literature
      or
      SPN 5773 Contemporary Spanish-American Literature
   Spanish Language:
   1. SPN 5883 Spanish Morphology and Syntax
   2. SPN 5893 Hispanic Dialectology

C. 6 semester hours of electives, as approved by the Division Graduate Advisor of Record.

Students desiring an instruction emphasis should take two of the following courses: SPN 5883 Spanish Morphology and Syntax, SPN 5953 A Functional Notional Approach to Contemporary Hispanic Culture, FL 5003 Foreign Language Studies I, FL 5013 Foreign
Language Testing, FL 5023 Foreign Language Studies II. Students who complete Option II (course work rather than thesis) may take two additional courses from those listed above.

D. 6 semester hours from Option I or Option II.

Option I
The satisfactory completion of a thesis in accordance with university regulations as stated under "Options for Master's Degrees."

Option II
An additional six (6) semester hours of course work in Spanish graduate courses as approved by the Division Graduate Advisor of Record,

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, both written and oral, is designed to test the student’s general knowledge in the chosen field as well as to evaluate critical abilities and is normally administered in the term in which the candidate expects to receive the degree.

COURSE DESCRIPTIONS
SPANISH (SPN)

5003 Hispanic Cultural Periods and Traditions I
(3-0) 3 hours credit.
The cultural history and traditions of Spain from the Middle Ages through the Renaissance, the Baroque Period, the Enlightenment, and the Romantic Movement to modern times. Credit cannot be earned for 5003 and 5453.

5013 Hispanic Cultural Periods and Traditions II
(3-0) 3 hours credit.
The cultural history and traditions of Spanish America from its discovery and conquest through colonization and Independence to the present. Credit cannot be earned for 5013 and 5453.

5203 Hispanic Literary Traditions I
(3-0) 3 hours credit.
The development of Spanish literature as manifested in selected works representative of literary periods, movements, styles, and genres. Credit cannot be earned for 5203 and 5613.

5213 Hispanic Literary Traditions II
(3-0) 3 hours credit.
The development of Spanish-American literature as manifested in works representative of literary periods, movements, styles, and genres. Credit cannot be earned for 5213 and 5613.

5373 Approaches to Hispanic Studies
(3-0) 3 hours credit.
Readings in and applications of research methods demonstrating main theoretical and critical approaches to texts and problems in Hispanic language, literature, and culture.

5413 History of Ideas In the Hispanic World
(3-0) 3 hours credit.
Selected works by Spanish and/or Spanish-American authors representative of major currents of thought affecting the evolution of Hispanic cultural history.

5463 Spanish Civilization
(3-0) 3 hours credit.
A study of the social, political, and cultural history of Spain.

5473 Spanish-American Civilization
(3-0) 3 hours credit.
A study of the social, political, and cultural history of the Spanish-American countries.
5483 Studies In Hispanic Culture
(3-0) 3 hours credit.
Studies of different facets of Hispanic culture, 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.

5633 Spanish Golden Age Literature
(3-0) 3 hours credit.
The trajectory of poetry, prose, and drama in the sixteenth and seventeenth centuries. May be repeated for credit when topics vary.

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.

5703 Modern Spanish Literature
(3-0) 3 hours credit.
Selected literary works of the twentieth century. May be repeated for credit when topics vary.

5773 Contemporary Spanish-American Literature
(3-0) 3 hours credit.
Selected literary works from the vanguard movement to the present: prose, poetry, and/or drama. May be repeated for credit when topics vary.

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.

5813 Studies In Hispanic Literature
(3-0) 3 hours credit.
Reading and analysis of representative works of individual authors, literary genres, literary periods, literary movements, geographical areas, or literary theory. May be repeated for credit when topics vary.

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 in both traditional and contemporary phonological frameworks, with attention given to regional variation.

5883 Spanish Morphology and Syntax
(3-0) 3 hours credit.
An introduction to the grammatical description of the Spanish language, focusing on the levels of word, phrase, sentence, and discourse. Awareness of the variability across language modalities (e.g., oral vs. written), and varieties (e.g., standard vs. popular) is emphasized for applicability to teaching and learning.

5893 Hispanic Dialectology
(3-0) 3 hours credit.
A study of regional and social variations of Peninsular, Latin American, and U.S. Spanish in terms of phonology, grammar, and lexicon. Special attention to San Antonio, Mexican American, and Mexican Spanish.

5903 Studies In Hispanic Linguistics
(3-0) 3 hours credit.
Study in selected areas of Hispanic linguistics not normally available as part of regular course offerings. May be repeated for credit when topics vary.
5953 A Functional Notional Approach to Contemporary Hispanic Culture
(3-0) 3 hours credit.
Identification of the segments of contemporary Spanish pertinent to the major functions or purposes of language use in a given part of the Spanish-speaking world. Identification of the extended vocabulary clusters or notions pertinent to major topics or situations in contemporary life in a given part of the Spanish speaking world. Relation of these elements to approaches to any of the four skills. May be repeated for credit when topics vary up to a maximum of six hours.

6813 Seminar In Hispanic Studies
(3-0) 3 hours credit. Prerequisite: 18 semester credit hours of graduate level Spanish.
In-depth study and major research project in topics such as Hispanic culture, literature, and/or language. 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 and the student's Graduate Advisor of Record.
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.

6961 Comprehensive Examination
1 hour credit. Prerequisite: Approval of the appropriate Committee on Graduate Studies to take the Comprehensive Examination.
Independent study course for the purpose of taking the Comprehensive Examination. May be repeated as many times as approved by the Committee on Graduate Studies. Enrollment is required each term in which the Comprehensive Examination is taken if no other courses are being taken that term. The grade report for the course is either CR (satisfactory performance on the Comprehensive Examination) or NC (unsatisfactory performance on the Comprehensive Examination).

6973 or 6 Special Problems
3 or 6 hours credit. Prerequisite: Consent of instructor.
An organized course offering the opportunity for 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: Permission of the Graduate Advisor of Record 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
FOREIGN LANGUAGES
(FL)

5003 Foreign Language Studies I
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
Consideration of foreign language instruction research and practice regarding facilitation of the four skills with consideration of vocabulary extension and treatment of accuracy. Special emphasis on Spanish, French, and German.

5013 Foreign Language Testing
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
Consideration of content and approaches for testing achievement and proficiency, at the various levels, in listening, speaking, reading, writing, vocabulary, structure, and culture in the foreign languages, with special emphasis on Spanish, French, and/or German.

5023 Foreign Language Studies II
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
Consideration of foreign language instruction research and practice regarding special areas
for integration such as video, audio, computer, literature, composition, culture-authentic materials, and/or higher order thinking-skills materials. Special emphasis on Spanish, French, and German. May be repeated for credit when topics vary.

5033 Foreign Languages and Intercultural Communications
(3-0) 3 hours credit.
Investigation of intercultural communication research in specific language communities and its application to effective interaction with speakers of a variety of foreign languages. Consideration of sociolinguistic norms, semantic variation, and nonverbal language relevant to selected foreign language communities in the U.S. and abroad compared with mainstream U.S. English norms.

COURSE DESCRIPTIONS
FRENCH
(FRN)

5813 Topics In French Linguistics
(3-0) 3 hours credit. Prerequisites: Consent of instructor.
A course focusing on a selected area of French Linguistics, such as grammar, stylistics, phonetics, or applied linguistics. May be repeated for credit when topics vary.

5913 Topics In French Literature and Culture
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
A course focusing on a selected period or aspect of French literature and culture, such as contemporary France, the nineteenth century novel and society, or twentieth century theater. May be repeated for credit when topics vary.

COURSE DESCRIPTIONS
GERMAN
(GER)

5813 Topics in German Linguistics
(3-0) 3 hours credit. Prerequisites: Consent of instructor.
A course focusing on a selected area of German Linguistics, such as grammar, stylistics, phonetics, or applied linguistics. May be repeated for credit when topics vary.

5913 Topics In German Literature and Culture
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
Selected topics relative to German literature and culture including such areas as contemporary Germany and profiles of particular segments of German society. May be repeated for credit when topics vary.

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.

5153 Topics In Contemporary Linguistics
(3-0) 3 hours credit. Prerequisite: LNG 3813 or equivalent or consent of instructor.
Theoretical approaches to language analysis and description. May be repeated for credit when topics vary.
DIVISION OF MUSIC

MASTER OF MUSIC DEGREE

The Master of Music degree program of the Division of Music is fully accredited by the National Association of Schools of Music.

The Master of Music Degree offers the opportunity for advanced study for qualified students who wish to emphasize either music performance or music education.

Program Admission Requirements. In addition to satisfying the university-wide admission requirements, applicants are expected to (1) hold the Bachelor of Music Degree or Bachelor of Music Education Degree with a major in their intended area of graduate emphasis, or the equivalent; (2) submit three recommendations from established professionals commenting on the appropriateness of graduate study in music for the applicant; (3) complete one of the following:

Music Performance: Audition in person or provide a recent tape demonstrating the level of mastery in the proposed performance medium.

Music Education: Music Education Entrance Examination.

Students are required to take advisory examinations in music theory and music history. The student's advisor will counsel the student in correcting deficiencies and in selecting courses for the student's degree program.

Degree Requirements. Two options are available in the Master of Music Degree program for the students in the music education emphasis. Option I consists of 24 semester hours of course work, and a thesis for which 6 semester hours of credit are given. Option II consists of 36 semester hours including a project for which 3 semester hours of credit are given.

Students selecting the music performance emphasis are required to complete 30 semester hours of credit including 1 semester hour of credit for a recital. Voice principals must demonstrate proficiency in French, Italian, and German diction.

To qualify for admission to candidacy all music performance emphasis students must, in addition to satisfying university-wide requirements, perform a qualifying recital of 30 minutes length.

Music Performance Emphasis

All candidates for the Master of Music Degree with an emphasis in music performance must complete:

A. 9 semester hours of music performance as follows:
   MUS 5554 Music Performance—Performance Emphasis (two semesters)
   MUS 6941 Recital

B. 15 semester hours of music electives (approved by advisor) to include the areas of theory and analysis, history and literature, research, pedagogy, and performance.

C. 6 semester hours of electives (approved by advisor) of which no more than two semester hours may be in a music ensemble.

Music Education Emphasis

All candidates for the Master of Music Degree with an emphasis in music education must complete:

A. 9 semester hours in the area of emphasis as follows:
   MUS 5403 Psychological Foundations of Music Education
   MUS 5413 Research in Music Education
   MUS 6423 Seminar in Music Education

B. Option I (with thesis):
The satisfactory completion of MUS 6983 Master's Thesis (6 hours) in accordance with university regulations as stated under "Options for Master's Degrees."

Option II (with project):
MUS 6913 Project in Music Education

C. Option I (with thesis):
15 semester hours of electives (approved by advisor) to include the areas of theory and analysis, history and literature, and performance (no more than two semester hours may be in a music ensemble). The remaining hours of electives are to be taken in the area of specialization (instrumental music education, choral music education, general music education, piano pedagogy) and must be approved by the advisor.

Option II (with project):
24 semester hours of electives (approved by advisor) to include the areas of theory and analysis, history and literature, research, and performance (no more than two semester hours may be in a music ensemble). The remaining hours of electives are to be taken in the area of specialization (instrumental music education, choral music education, general music education, piano pedagogy) and must be approved by the advisor.

Special Degree Requirements. All graduate students are required to participate in an ensemble appropriate to their program of study for two semesters.

Students selecting the performance emphasis will complete a recital document and oral examination. Students selecting the music education emphasis will complete both written and oral examinations.

COURSE DESCRIPTIONS

MUSIC (MUS)

5103 Applied Systems of Analysis
(3-0) 3 hours credit. Required of all students for a Master of Music Degree.
A study of techniques designed to assist the conductor-performer-analyst in a better understanding of music through the application of differing analytical systems, with an emphasis on the Schenker-Salzer System of Analysis.

5223 Ensemble Repertoire
(3-0) 3 hours credit. Prerequisite: Graduate standing in music.
A study of repertoire for ensembles including an historical perspective. Section 1, Choral. Section 2, Instrumental. May be repeated for credit.

5233 Introduction to Music Research
(3-0) 3 hours credit. Prerequisite: Graduate standing in music.
A survey of references and sources consulted in graduate music courses; format for papers and thesis, including footnotes and bibliography. Research methods in music are explored.

5263 Topics In Music History
(3-0) 3 hours credit. Prerequisite: Graduate standing in music.
A study of works and styles appropriate to the topics listed below. Topics are: 1. Middle Ages. 2. Renaissance. 3. Baroque Period. 4. Classic Period. 5. Romantic Period. 6. Twentieth Century. 7. Music Practices and Styles. Course may be repeated for credit when topics vary. Topics may be taken concurrently.

5403 Psychological Foundations of Music Education
(3-0) 3 hours credit. Prerequisite: Graduate standing in music.
A study of the psychological foundations of music education. An investigation of such topics as perception of and responses to music, the nature of musical attributes, music learning, and the measurement of musical behavior.
5413 Research in Music Education  
(3-0) 3 hours credit. Prerequisite: Graduate standing in music. 
An introduction to historical, philosophical, descriptive, and experimental research in music education. Students will conduct a research study and prepare a final report.

5433 Performance Repertoire  
(3-0) 3 hours credit. Prerequisite: Graduate standing in music. 
A study of the solo, chamber, and orchestral repertoire.

5511 Secondary Performance  
(1-0) 1 hour credit. Private instruction for graduate students desiring secondary study in the following areas: baritone, bassoon, clarinet, conducting, contrabass, cornet, flute, classical guitar, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violoncello, voice. Seminar attendance may be required. May be repeated for credit.

5523 Rehearsal Techniques  
(3-0) 3 hours credit. Prerequisite: Graduate standing in music. 
A study of rehearsal techniques including tone development, phrasing, rehearsal score study, style, and rehearsal organization. Topics are: 1. Choral. 2. Instrumental. Course may be repeated for credit when topics vary. Topics may be taken concurrently.

5533 Pedagogy of Musical Performance  
(3-0) 3 hours credit. Prerequisite: Graduate standing in music. 
Techniques and materials of teaching musical performance to the college level student. A critical comparison of existing materials is included. Each student is required to demonstrate teaching techniques.

5542 Music Performance  
(2-0) 2 hours credit. Private instruction in the following areas: baritone, bassoon, clarinet, conducting, contrabass, cornet, flute, classical guitar, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, violoncello, voice. Seminar attendance may be required. May be repeated for credit.

5554 Music Performance-Performance Emphasis  
4 hours credit. Prerequisite: Graduate standing in music and successful audition. 
Private instruction for graduate students with emphasis in performance. Instruction offered in baritone, bassoon, clarinet, conducting, contrabass, cornet, flute, classical guitar, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, violoncello, voice. Seminar attendance may be required. May be repeated for credit.

5572 Class Piano Practicum  
(2-0) 2 hours credit. Prerequisite: Graduate standing in music. 
A study of pedagogical techniques and materials used in teaching class piano. Students will have an opportunity to tutor individual students under the supervision of the instructor.

5583 Advanced Instrumental Techniques  
(3-0) 3 hours credit. Prerequisite: Graduate standing in music. 
A study of advanced playing and teaching techniques, selection of materials, and maintenance care for woodwind, brass, and percussion instruments. Designed primarily for instrumental music teachers.

5593 Elementary Music  
(3-0) 3 hours credit. Prerequisite: Graduate standing in music. 
A study of the current methods and materials used in teaching elementary music. Classroom instruments will also be studied.

5711 Graduate Ensemble  
(0-3) 1 hour credit. The study of selected ensemble works through participation in rehearsal and performance. May be repeated for credit.

5721 Orchestra  
(0-3) 1 hour credit. The study of selected works for the orchestra through ensemble participation in rehearsal and performance. May be repeated for credit.

5731 Chamber Chorale  
(0-3) 1 hour credit. The study of selected works for mixed voices through ensemble participation in rehearsal and performance. May be repeated for credit.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5791</td>
<td>Opera Workshop</td>
<td>(0-3) 1 hour</td>
<td>Open to all graduate students by audition. The study and performance of opera and other types of musical theatre from the Baroque period to the present. May be repeated for credit.</td>
</tr>
<tr>
<td>6233</td>
<td>Twentieth Century Analytical Techniques</td>
<td>(3-0) 3 hours</td>
<td>Prerequisite: Graduate standing in music. Applied analysis of contemporary music using techniques designed to aid the performer and music educator in a fuller understanding of music of our century. Interpretation of new notation and specific performance techniques for both solo and ensemble are emphasized.</td>
</tr>
<tr>
<td>6313</td>
<td>The Use of Microcomputers in Music Education</td>
<td>(3-0) 3 hours</td>
<td>Prerequisite: Graduate standing in music. A study of the role of microcomputers in music education. Students will be given the opportunity to learn basic programming techniques with specific applications to music instruction. Currently available software and hardware applicable to music instruction will be examined.</td>
</tr>
<tr>
<td>6423</td>
<td>Seminar in Music Education</td>
<td>(3-0) 3 hours</td>
<td>Studies in the philosophy, historical background, and current trends in music education.</td>
</tr>
<tr>
<td>6543</td>
<td>Diction For Singers</td>
<td>(3-0) 3 hours</td>
<td>Prerequisite: Graduate standing in music. A study of performance diction for singers. The pronunciation of the languages listed below as it applies to public performance. Topics include: English and French; Italian and German. May be repeated for credit when topics vary.</td>
</tr>
<tr>
<td>6913</td>
<td>Project In Music Education</td>
<td>(3-0) 3 hours</td>
<td>Prerequisite: Admission to Candidacy and permission of the Graduate Advisor of Record and project director. Offers the opportunity to complete a professional project in music education relevant to the student’s background, interests, and/or needs. The project should include, but not necessarily be limited to, appropriate written documentation. May be repeated for credit, but not more than 3 hours will apply to the Master’s degree. Enrollment is required each term in which the project is in progress.</td>
</tr>
<tr>
<td>6941</td>
<td>Recital</td>
<td>(1-0) 1 hour</td>
<td>Prerequisite: Admission to Candidacy and permission of the Graduate Advisor of Record and music performance instructor. Concurrent registration required in MUS 5554. A recital of approximately one hour in length is required of all students in the performance emphasis.</td>
</tr>
<tr>
<td>6951-3</td>
<td>Independent Study</td>
<td>1-3 hours</td>
<td>Prerequisites: Permission in writing (form available) of the instructor and the student’s Graduate Advisor of Record. 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 will apply to the Master’s degree.</td>
</tr>
<tr>
<td>6961</td>
<td>Comprehensive Examination</td>
<td>1 hour</td>
<td>Prerequisite: Approval of the appropriate Committee on Graduate Studies to take the Comprehensive Examination. Independent study course for the purpose of taking the Comprehensive Examination. May be repeated as many times as approved by the Committee on Graduate Studies. Enrollment is required each term in which the Comprehensive Examination is taken if no other courses are being taken that term. The grade report for the course is either CR (satisfactory performance on the Comprehensive Examination) or NC (unsatisfactory performance on the Comprehensive Examination).</td>
</tr>
</tbody>
</table>
| 6971-3     | Special Problems                                 | 1-3 hours    | Prerequisite: Consent of instructor. Offers the opportunity for 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
(3-0) 3 hours credit. Prerequisites: Permission of the Graduate Advisor of Record 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.
The purpose of the graduate program in chemistry is to offer the student the opportunity to acquire a sound preparation of the fundamentals in several areas of chemistry, to introduce the student to recent advances in chemical theory and methods, and to encourage research in a specific area of study.

Graduate study in chemistry is offered leading to the M.S. degree with the following interest areas: analytical and environmental chemistry, bio-organic chemistry, bio-physical chemistry, inorganic chemistry, macromolecular chemistry, organic chemistry, physical chemistry and chemical physics.

Faculty expertise in each of the interest areas offers the opportunity for direct student-faculty interaction for Thesis development through course work and research. Additional cooperative projects and programs are available with other area research institutions.

Qualified students are encouraged to apply for teaching and/or research assistantships and fellowships. Requests should be directed to the Director of the Division of Earth and Physical Sciences at the same time application is made for admission to The University.

Program 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 with the appropriate laboratories. All undergraduate chemistry courses must be completed with a grade-point average of B or higher.

All applicants must submit scores from the Graduate Record Examination Aptitude Test (GRE).

A minimum of two letters of recommendation from persons familiar with the applicant's undergraduate scholastic record must be sent directly to the Division of Earth and Physical Sciences at the same time application is made for admission to The University.

Thesis Option In Chemistry

Degree Requirements. The Master of Science program requires the successful completion of a minimum of 33 semester hours. The following plan must be followed by all candidates:

A. Required Courses (24 semester hours)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 5113</td>
<td>Advanced Organic Chemistry I</td>
<td>(3 semester hours)</td>
</tr>
<tr>
<td>CHE 5133</td>
<td>Advanced Inorganic Chemistry</td>
<td>(3 semester hours)</td>
</tr>
<tr>
<td>CHE 5163</td>
<td>Advanced Instrumental Analysis</td>
<td>(3 semester hours)</td>
</tr>
<tr>
<td>CHE 5183</td>
<td>Advanced Spectral Measurement and Interpretation</td>
<td>(3 semester hours)</td>
</tr>
<tr>
<td>CHE 5213</td>
<td>Chemical Thermodynamics</td>
<td>(3 semester hours)</td>
</tr>
<tr>
<td>CHE 5271</td>
<td>Graduate Seminar in Chemistry</td>
<td>(3 semester hours)</td>
</tr>
<tr>
<td>CHE 6983</td>
<td>Master's Thesis, including an oral defense of the written thesis.</td>
<td>(6 semester hours)</td>
</tr>
</tbody>
</table>

Registration for Graduate Seminar in Chemistry is required for each semester of residence, although no more than 3 semester hours of credit can be applied to the Master's Degree.

B. A minimum of 6 semester hours in Chemistry, as approved by the Graduate Advisor of Record, is required.
The following interest areas are available for study:
1. Analytical and Environmental Chemistry
2. Bio-organic Chemistry
3. Biophysical Chemistry
4. Inorganic Chemistry
5. Organic Chemistry
6. Physical Chemistry and Chemical Physics

C. A minimum of 3 semester hours of supportive electives are required in chemistry, advanced mathematics, computer science, earth and physical sciences, and/or biology as approved by the Graduate Advisor of Record.

D. Students must successfully defend their thesis research results before their Graduate Committee prior to the submission of the thesis to the Vice President for Academic Affairs for approval.

**Non-Thesis Option In Chemistry**

**Admission Requirements:** General university-wide graduate admission requirements.

**Degree Requirements:** Required 36 hour degree program:

A. Required courses (24 semester hours)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 5113</td>
<td>Advanced Organic Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHE 5133</td>
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<td>3</td>
</tr>
<tr>
<td>CHE 5163</td>
<td>Advanced Instrumental Analysis</td>
<td>3</td>
</tr>
<tr>
<td>CHE 5183</td>
<td>and Interpretation</td>
<td>3</td>
</tr>
<tr>
<td>CHE 5213</td>
<td>Chemical Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>CHE 5271</td>
<td>Graduate Seminar in Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHE 5973</td>
<td>Directed Research</td>
<td>6</td>
</tr>
</tbody>
</table>

Registration for Graduate Seminar in Chemistry is required for each semester of residence, although no more than three semester hours of credit can be applied to the degree.

B. Six semester hours of laboratory work in Chemistry covering advanced organic and inorganic/physical laboratory techniques normally to be taken as Independent Study and completed prior to enrolling in CHE 5973.

C. Six semester credit hours of elective organized course support work within the College of Sciences and Engineering, as approved by the Graduate Advisor of Record.

**COURSE DESCRIPTIONS**

**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 stereochemistry, conformational analysis, nonbenzenoid aromaticity, and organic reaction mechanisms.

5133 Advanced Inorganic Chemistry  
(3-0) 3 hours credit. Prerequisite: CHE 4263 or its equivalent. Modern theories of chemical bonding, structure of inorganic compounds, reaction mechanisms, organometallic chemistry, and cluster compounds.

5163 Advanced Instrumental Analysis  
(3-0) 3 hours credit. Prerequisites: CHE 3224 and CHE 3232. The physical and chemical principles of modern instrumental techniques used for chemical
analysis with emphasis on absorption, emission, magnetic resonance, and Raman spectrosco-
copies; mass spectrometry, chromatography, and electrochemical techniques.

5183 Advanced Spectral Measurement and Interpretation
(1-4) 3 hours credit. Prerequisite: CHE 5163.
Theory of and selected laboratory experiments and spectral interpretations of NMR, IR, Uv
AA, x-ray, and mass spectrometry as well as gas and liquid chromatography.

5213 Chemical Thermodynamics
(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 chemical thermodynamics. Discussion of chemical, electrochemical,
and interphase equilibria.

5223 Chemical Kinetics
(3-0) 3 hours credit. Prerequisite: CHE 3224 or its equivalent.
An advanced study of topics in chemical kinetics, such as formal kinetics, theory of rates of
chemical reactions and reaction mechanisms.

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 Graduate
Advisor of Record.
Current research seminars presented by faculty, visiting lecturers, and Master’s candidates.
Chemistry Master’s degree-seeking students must register every semester while in residence,
but only 3 hours of credit will apply towards the Master’s degree.

5503 Bio-Organic Chemistry
(3-0) 3 hours credit. Prerequisite: CHE 5113 or consent of the instructor.
Chemical transformations of biologically important organic compounds; examination of
enzyme active sites. Discussion of theories of catalysis, stereochemistry, electron-transfer,
and molecular structure in the context of biological systems.

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 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.

5623 Statistical Thermodynamics
(3-0) 3 hours credit. Prerequisite: CHE 3224 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.

5973 Directed Research
3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of
the instructor the student’s Graduate Advisor of Record.
The directed research course may involve either a laboratory or a theoretical problem. May be
repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the
Master’s degree.

6113 Advanced Organic Chemistry II
(3-0) 3 hours credit. Prerequisite: CHE 5113 or consent of the instructor.
Study of organic reaction mechanisms.

6123 Methods of Organic Synthesis
(3-0) 3 hours credit. Prerequisite: CHE 5113 or consent of the instructor.
A study of modern methods of organic functional group transformation and of simple carbon
skeleton construction; introduction to the synthon concept and to retrosynthetic analytical
methodology for designing rational synthetic approaches to complex organic molecules.
6153 Advanced Topics In Inorganic and Physical Chemistry
(3-0) 3 hours credit. Prerequisite: Consent of the instructor and Graduate Advisor of Record.
An organized course offering the opportunity for a specialized study of advanced aspects of
inorganic and/or physical chemistry. The course may be repeated for credit, but not more
than 6 credit hours may be applied to the Master's degree.

6163 Advanced Topics In Analytical and Structural Chemistry
(3-0) 3 hours credit. Prerequisite: Consent of the instructor and Graduate Advisor of Record.
An organized course offering the opportunity for a specialized study of advanced techniques
of chemical analysis and/or determination of molecular structure. The course may be
repeated for credit, but not more than 6 credit hours may be applied to the Master's degree.

6173 Advanced Topics In Organic, Bioorganic and Biophysical Chemistry
(3-0) 3 hours credit. Prerequisite: Consent of the instructor and Graduate Advisor of Record.
An organized course offering the opportunity for a specialized study of advanced aspects in
organic, bioorganic and/or biophysical chemistry. The course may be repeated for credit, but
not more than 6 credit hours may be applied to the Master's degree.

6183 Topics In the Chemistry of Natural Products
(3-0) 3 hours credit. Prerequisites: CHE 5113 and CHE 6123; CHE 5503 is recommended.
Selected topics in the chemistry and biochemistry of natural products and related compounds
of biological and medicinal interest. Course may be repeated for credit when topics vary, but
no more than 6 hours may apply to the Master's degree.

6903 Progress In Chemistry
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering the opportunity for 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 and the student's Graduate Advisor of Record. 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 Masters degree.

6961 Comprehensive Examination
1 hour credit. Prerequisite: Approval of the appropriate Committee an Graduate Studies to
take the Comprehensive Examination. Independent study course for the purpose of taking the Comprehensive Examination. May be repeated as many times as approved by the Committee on Graduate Studies. Enrollment is required each term in which the Comprehensive Examination is taken if no other courses are being taken that term. The grade report for the course is either CR (satisfactory performance on the Comprehensive Examination) or NC (unsatisfactory performance on the Comprehensive Examination).

6973 Special Problems
3 hours credit. Prerequisite: Consent of instructor.
An organized course offering the opportunity for 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 for more than 6 hours, regardless of discipline, will
apply to a Master's degree.

6983 Master's Thesis
3 hours credit. Prerequisites: Permission of the Graduate Advisor of Record 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.
MASTER OF SCIENCE DEGREE IN GEOLOGY

The purpose of the graduate program in geology is to offer the student the opportunity for advanced study and research leading to the M.S. degree in the following emphasis areas: (1) Water Resources (Hydrogeology), and (2) Applied Geology.

Qualified students are encouraged to apply for teaching and/or research assistantships and fellowships. Requests should be directed to the Director of the Division of Earth and Physical Sciences at the same time application is made for admission to The University.

Program Admission Requirements. In addition to satisfying the university-wide graduate admission requirements, applicants are expected to have completed an undergraduate degree in Geology (equivalent to UTSA's) or a bachelor's degree in Chemistry, Physics, Mathematics, Computer Science, Life Sciences, or Engineering from an accredited institution of higher education. Applicants with deficiencies in their academic background are required to consult with the Graduate Advisor of Record to establish an acceptable program of study with the approval of the graduate faculty. In such cases, students should anticipate that additional time will be required to complete the degree. All applicants must submit scores from the Graduate Record Examination Aptitude Test (GRE). Three letters of recommendation should be sent to the Director, Division of Earth and Physical Sciences.

Thesis Option in Geology

Degree Requirements. The Master of Science program in Geology requires the successful completion of a minimum of 33 semester hours.

All candidates for the degree must complete:

A. 8 semester hours minimum in the Geology Core Curriculum:

GE0 5991 Graduate Seminar in Geology (2 hours)
GE0 6983 Master's Thesis (6 hours)

No more than 2 semester hours of Graduate Seminar and 6 semester hours of Master's Thesis can be applied to the Master's Degree.

B. Water Resources Emphasis (Hydrogeology)

1. 12 semester hours minimum to include the following courses:

GE0 5603 Hydrogeology
GE0 5703 Advanced Hydrogeology
GE0 6203 Aqueous Geochemistry
GE0 6603 Subsurface Fluid Mechanics

2. 13 semester hours minimum selected from the graduate course offerings in Geology, Environmental Sciences, Civil Engineering, and Biology with approval of the Graduate Advisor.

Applied Geology Emphasis

25 semester hours minimum selected from graduate course offerings with the approval of the Graduate Advisor of Record.

Non-Thesis Option in Geology

Degree Requirements. The Master of Science program in Geology requires the successful completion of a minimum of 39 semester hours.

All candidates for the degree must complete:

A. 5 semester hours minimum in the Geology Core Curriculum:

GE0 5991 Graduate Seminar in Geology (2 hours)
GE0 5973 Directed Research (3 hours)

No more than 2 semester hours of Graduate Seminar and 3 semester hours of Directed Research can be applied to the Master's Degree.
B. Water Resources Emphasis (Hydrogeology)
1. 12 semester hours minimum to include the following courses:
   GEO 5603 Hydrogeology
   GEO 5703 Advanced Hydrogeology
   GEO 6203 Aqueous Geochemistry
   GEO 6603 Subsurface Fluid Mechanics
2. 22 semester hours minimum selected from the graduate course offerings in Geology, Environmental Sciences, Civil Engineering, and Biology with approval of the Graduate Advisor of Record.

Environmental Geology Emphasis
1. 6 semester hours minimum to include the following courses:
   GEO 5203 Advanced Environmental Geology
   GEO 5303 Advanced Geomorphology
2. 10 semester hours minimum selected from the graduate course offerings in Geology.
3. 18 semester hours minimum selected from the graduate course offerings in Geology, Environmental Sciences, Civil Engineering, Chemistry, and Biology with approval of the Graduate Advisor of Record.

C. Under special circumstances students may take up to 6 hours of upper division undergraduate work within the College of Sciences and Engineering with approval of the Graduate Advisor.

D. All candidates are required to pass an oral comprehensive examination, which will be scheduled after a student has completed at least 30 semester hours of course work.

COURSE DESCRIPTIONS

GEOLOGY
(GEO)

5203 Advanced Environmental Geology
(3-0) 3 hours credit. Prerequisite: GEO 4023 or consent of instructor. Study of the geology of the environment with emphasis on the physical and social effects of catastrophic geologic processes on engineered structures.

5303 Advanced Geomorphology
(3-0) 3 hours credit. Prerequisites: GEO 4113 and 4121 or consent of instructor. Interpretation of landforms with emphasis on mechanics of surficial processes and the relationship to type of rock material, structure and climate.

5423 Advanced Mineralogy
(2-3) 3 hours credit. Prerequisites: GEO 3043, 3052, or consent of the instructor. Study of crystal chemistry, thermodynamics, and phase equilibria of various mineral groups; petrology and paragenesis relationships will be examined. Field trips required.

5454 Advanced Paleontology
(3-3) 4 hours credit. Prerequisites: GEO 3083, 3123, 3131 or consent of the instructor. Study of fossil assemblages, environmental significance of fossil associations, and reconstruction of depositional environments as related to the separation and differentiation of rock units in time and space. Field trips required.

5503 Advanced Stratigraphy
(3-0) 3 hours credit. Prerequisites: GEO 3083, 3123, 3131 or consent of the instructor. Chronologic study of stratigraphic systems, physical properties and facies, depositional and paleogeographic implications, correlation, nomenclature and biostratigraphy. Field trips required.
5603 Hydrogeology
(3-0) 3 hours credit. Prerequisite: GEO 4623 with a grade of C or better or consent of the instructor.
Geologic principles governing the flow of groundwater, emphasis on hydrology, flow system evolution and aquifer analysis. Field trips required.

5703 Advanced Hydrogeology
(3-0) 3 hours credit. Prerequisites: GEO 5603 and consent of the instructor.
Hydrogeochemical models, finite element flow modeling, contamination transport, environmental isotopes and hydrogeology.

5804 Igneous-Metamorphic Petrology
(3-3) 4 hours credit. Prerequisites: GEO 3043, 3052, 3103, 3111, or consent of the instructor.

5853 Mapping of Complex Geological Structures
(0-6) 3 hours credit. Prerequisite: GEO 4946 or equivalent and consent of instructor.
4-7 day field study of an area of complex structural geology. The mapping of an area approximately 1 mile square. A written report is required.

5894 Advanced Structural Geology
(3-3) 4 hours credit. Prerequisites: GEO 3103, 3111, or consent of the instructor.
In-depth study of the various aspects of structural geology; stress and strain, behavior of materials, failure criteria, fault analysis, rheological properties of geologic materials, fold analysis, subsurface analysis. Field trips required.

5904 Carbonate Petrology
(3-3) 4 hours credit. Prerequisites: GEO 3043, 3052, 3123, 3131, or consent of the instructor.
Thin-section analysis and hand-specimen study of carbonate sediment and rocks, carbonate classifications, carbonate facies models, and carbonate diagenesis. Field trips required.

5954 Sandstone Petrology
(3-3) 4 hours credit. Prerequisites: GEO 3043, 3052, 3123, 3131, or consent of the instructor.
Thin-section analysis and hand-specimen study of clastic rocks, classifications, interpretation of provenance, clastic sedimentary facies, and clastic diagenesis. Field trips required.

5971-3 Directed Research
1-3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor and the student’s Graduate Advisor of Record.
The directed research course may involve either a laboratory or a theoretical problem. May be repeated for credit, but not more than 3 hours, regardless of discipline, will apply to the Master’s degree.

5991 Graduate Seminar in Geology
(0-3) 1 hour credit. Prerequisite: Graduate standing in geology or consent of the Graduate Advisor of Record.
Current research seminars presented by faculty, visiting lecturers, and Master’s candidates. Only 2 hours of credit may be applied towards the Master’s degree.

6153 Depositional Systems
(3-0) 3 hours credit. Prerequisite: GEO 5954 or consent of the instructor.
The processes, characteristics, and relationships among continental, transitional and marine depositional systems; specific relationships that must be understood for each subsystem and how each subsystem relates to the global system. Field trips required.

6183 Basin Analysis and Sedimentary Geology
(3-0) 3 hours credit. Prerequisite: GEO 6153 or consent of instructor.
An interdisciplinary integration of geodynamics, mathematical and physical modelling, and sedimentary geology. Emphasizes basin formation, nature of the basin fill, maturation of the basin fill and timing of events. Case histories of various basins will illustrate these various approaches.

6203 Aqueous Geochemistry
(2-3) 3 hours credit. Prerequisites: GEO 3373, 3123, 3131, or consent of the instructor.
In-depth study and application of chemical concepts to geological problems; analyses of water-rock interaction at various temperatures and pressures.
6303 **Isotope Geology**
(3-2) 4 hours credit. Prerequisite: GEO 3373.
Geological applications of radioactive and stable isotopes; fundamentals of isotope fractionation processes in hydrology, metamorphism, and chronostratigraphy. Laboratory methods for stable isotope sample preparation and isotope ratio mass spectrometry.

6403 **Advanced Geophysics**
(3-0) 3 hours credit. Prerequisites: GEO 4383, 4391, or consent of the instructor.
Seismological and other geophysical methods and data for studying the physical and mechanical properties of the earth's crust, mantle, and core.

6603 **Subsurface Fluid Mechanics**
(3-0) 3 hours credit. Prerequisites: MAT 2213 and consent of the instructor.
Fluid properties, fluid dynamics, Navier-Stokes equations, laminar flow, stability, boundary-layer theory and flow nets.

6803 **Electron Microscopy and Microbeam Analysis**
(1-4) 3 credit hours. Prerequisite: Consent of instructor.
Geological and geochemical applications of electron microscopy, X-ray microanalysis, and image analysis. The theory and development of electron imaging and analysis as well as case studies. The laboratory will focus upon sample preparation, imaging, and elemental analysis.

6961 **Comprehensive Examination**
1 hour credit. Prerequisite: Approval of the appropriate Committee on Graduate Studies to take the Comprehensive Examination.
Independent study course for the purpose of taking the Comprehensive Examination. May be repeated as many times as approved by the Committee on Graduate Studies. Enrollment is required each term in which the Comprehensive Examination is taken if no other courses are being taken that term. The grade report for the course is either CR (satisfactory performance on the Comprehensive Examination) or NC (unsatisfactory performance on the Comprehensive Examination).

6973 **Special Problems**
3 hours credit. Prerequisite: Consent of the instructor.
An organized course offering the opportunity for 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. Field trips may be required.

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

**MASTER OF SCIENCE DEGREE IN ENVIRONMENTAL SCIENCES**

The Master of Science Degree in Environmental Sciences is available to students whose undergraduate degree are in such areas as, but not limited to, environmental sciences, biology, geology, engineering or other related physical and biological sciences. This program is for those individuals wanting the opportunity to prepare for careers involving the allocation, regulation, utilization, and protection of natural resources and environmental quality and for those in mid-career who want the opportunity to improve their professional qualifications.

**Program Admission Requirements.** In addition to the university-wide graduate admission requirements, the applicant must have completed at least eighteen hours (twelve of which must be upper division) of course work in physical or biological sciences, engineering, mathematics, economics, or environmental science and the equivalent of STA 1993, and submit scores from the Graduate Record Examination Aptitude Test (GRE).
Degree Requirements. The minimum number of semester hours required for this degree, exclusive of course work or other study required to remove deficiencies, is 36. All candidates for the degree must complete:

A. Required Courses (30 semester hours)

- ENV 5533 Environment and Systems
- ENV 6603 Environmental Systems Analysis
- ENV 6613 Environmental Ecology
- ENV 6623 Economics of Environmental Resources
- ENV 6653 Environmental Planning and Management
- ENV 6813 Water Resources
- ENV 6823 Land Resources
- ENV 6853 Energy Resources
- ENV 6863 Air Quality Management
- ENV 6873 Project Analysis

B. Elective Courses (6 semester hours)

Six (6) semester hours of course work from a related field in Environmental Sciences or from another support area, as approved by the Graduate Advisor of Record.

Students who elect to write a Master's Thesis are required to enroll in 6 hours of ENV 6983. Thesis must consist of 6 hours.

All candidates for the degree are required to pass oral comprehensive examinations, which will be scheduled after a student has completed at least 30 semester hours of course work.

COURSE DESCRIPTIONS

ENVIRONMENTAL SCIENCES

(ENV)

5003 Environmental Regulation
(3-0) 3 hours credit.
Current environmental enabling acts and resulting regulations are covered with emphasis placed on federal acts, such as National Environmental Policy Act, Clean Water Act, Resource Conservation and Recovery Act and associated regulations. Management strategies for environmental compliance are also presented.

5013 Environmental Methods for Environmental Analysis
(2-2) 3 hours credit. Prerequisite: one year of college chemistry or consent of instructor.
Use, as well as interpretation of results, of various analytical and instrumental techniques used to detect environmental pollutants. EPA approved techniques are emphasized.

5023 Professional Practice in Environmental Planning and Management
(3-0) 3 hours credit.
A study of the standards of environmental practice in the private and public sectors, professional ethics and responsibilities, proposals, contracts, mediation, professional liability, report preparation and other considerations of professional practice are covered.

5033 Data Processing in Environmental Planning and Management
(2-2) 3 hours credit.
Application of the computer to environmental planning and management problems. The computer as a mapping device for graphical display of spatially related data and the use of relational databases for these applications. Geographic Information Systems and other uses of the computer are included.

5363 Environmental Geology
(3-0) 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. Properties of minerals, rocks, and soils and geologic aspects of waste disposal and water resources are examined. (Course cannot be used for graduate credit by students in Geology.)

5533 Environment and Systems
(3-0) 3 hours credit.
Atmosphere, lithosphere, hydrosphere and biosphere are treated as interrelated systems. Human impact and interaction within and between these systems are studied. Preparation and evaluation of environmental impact statements and assessments are included.

6603 Environmental Systems Analysis
(3-0) 3 hours credit. Prerequisites: MAT 1033 and STA 1993 or equivalent, 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 Environmental Ecology
(3-0) 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.

6623 Economics of Environmental 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.

6653 Environmental Planning and Management
(3-0) 3 hours credit.
Regional, state, and national efforts to plan for the allocation and use of environmental resources are analyzed. Focus is on the strengths and weaknesses of traditional planning processes and regulation mechanisms. Technical, economic, and institutional considerations that influence plan development, preparation, and implementation are covered as are citizen participation and conflict resolution. Students will prepare in depth case studies.

6813 Water Resources
(3-0) 3 hours credit.
Application of management principles to the efficient utilization of water resources by society. Study water as a resource, its value, uses and changing role over time. Formulation of public policy toward water resources is studied.

6823 Land Resources
(3-0) 3 hours credit.
The changing role of land as a resource as it relates to human and technological development is examined. Land use and land use planning in the rural-urban fringe is considered as is the management of land as a resource in range, forestry, and agricultural production.

6853 Energy Resources
(3-0) 3 hours credit.
Energy utilization, energy resources development, availability of alternatives and energy resources management, conservation, and policy will be presented. Applicable physical principles which relate to the economics, conservation, and technology of energy will be covered.

6863 Air Quality Management
(3-0) 3 hours credit.
Introduction to the field of air pollution control; sources and physical, chemical and biological effects of air pollutants. 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 Project Analysis
(3-0) 3 hours credit. Prerequisite: ENV 5033 or consent of instructor.
This course will cover the complex processes and factors involved in the evaluation of large scale projects involving natural resources. It will bring together tools required to evaluate the physical, economic, financial, legal, and political constraints of such projects.

6883 Solid Waste Management
(3-0) 3 hours credit. Prerequisite: ENV 6603 or consent of instructor.
Practical aspects of solid waste management with emphasis placed on interrelationship of environmental, economic, institutional, and technological aspects of source reduction, recycling, waste to energy, and perpetual care.

6893 Water Pollution Control
(3-0) 3 hours credit.
Principles and methods of water pollution control process design and operation; selection and optimization of total treatment processes as well as appurtenances and accessory equipments; methods involved in the design process and the selection of the hardware.

6903 Risk and Decision Analysis
(3-0) 3 hours credit. Prerequisite: ENV 6603 or consent of instructor.
Advance application of systems analysis to the solution of environmental problems and the building and solving of mathematical models. The role of analytical tools such as cost analysis, decision and utility theory as they are applied to the efficient utilization of natural resources are also covered.

6951-3 Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor and the student's Graduate Advisor of Record. 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.

6961 Comprehensive Examination
1 hour credit. Prerequisite: Approval of the appropriate Committee on Graduate Studies to take the Comprehensive Examination. Independent study course for the purpose of taking the Comprehensive Examination. May be repeated as many times as approved by the Committee on Graduate Studies. Enrollment is required each term in which the Comprehensive Examination is taken if no other courses are being taken that term. The grade report for the course is either CR (satisfactory performance on the Comprehensive Examination) or NC (unsatisfactory performance on the Comprehensive Examination).

6973 Special Problems
3 hours credit. Prerequisite: Consent of instructor. An organized course offering the opportunity for 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 six (6) hours, regardless of discipline will apply to a Master's degree.

6983 Master's Thesis
3 hours credit. Prerequisites: Permission of the Graduate Advisor of Record 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 ENGINEERING

Graduate programs in Engineering include the Master of Science in Civil Engineering, the Master of Science in Electrical Engineering and the Master of Science in Mechanical Engineering. They offer opportunities for advanced study and research designed to prepare students for leadership roles in engineering careers with industry, government, or educational institutions. A thesis option is recommended for students who are planning a
career in research or who contemplate pursuing a doctorate in one of the engineering disciplines. A non-thesis option is also available for students who desire a practical industrial applications oriented degree.

Civil Engineering includes programs of study in structures, environmental sciences, systems, solid mechanics and materials. Electrical Engineering includes programs of studies in signal processing, digital systems, communications, instrumentation, and control systems. Mechanical Engineering includes programs of studies in thermal and fluid systems, mechanical systems and design, solid mechanics and materials.

Qualified students are encouraged to apply for assistantships and fellowships. Inquiries should be directed to the Director of the Division of Engineering at the same time application is made for admission to The University of Texas at San Antonio.

Courses of a general nature are listed below. Program Admission Requirements and Degree Requirements are listed separately below for each graduate engineering program. Courses in each engineering discipline are listed after each graduate engineering program description.

COURSE DESCRIPTIONS

ENGINEERING

(EGR)

5113 Advanced Engineering Economic Analysis
(3-0) 3 hours credit. Prerequisite: Graduate standing in Engineering.
Examination of the factors required to transform technological innovations into products. Elements of business planning are examined through a case study approach.

5213 Topics in System Modeling
(3-0) 3 hours credit. Prerequisite: Graduate standing in Engineering.
Systems analysis approach to formulating and solving engineering problems. Topics include operational research, mathematical modeling, optimization, and linear and dynamic programming decision analysis. May be repeated for credit as topics vary.

5313 Fracture Mechanics
(3-0) 3 hours credit. Prerequisite: EGR 3213 or equivalent, or consent of instructor.
Introduction to failure and fracture of engineering materials including Griffith's energy balance, stress intensity and strain energy release rate approaches to brittle fracture. Also Dugdale and Irwin approaches to ductile fracture. Applications to modern engineering problems.

5323 Viscoelasticity
(3-0) 3 hours credit. Prerequisites: EGR 3213 and MAT 3253 or equivalent, or consent of instructor.
Principle of fading memory, integro-differential constitutive laws, mechanical models, time and temperature superposition, linear and non-linear methods. Applications to polymers, composites and adhesives.

5413 Composite Materials
(3-0) 3 hours credit. Prerequisite: EGR 3213 or equivalent, or consent of instructor.
Introduction to fiber-reinforced plastics and metals, anisotropic constitutive laws, lamination theory, design and applications.

5513 Finite Element Methods in Mechanics
(3-0) 3 hours credit. Prerequisite: EGR 3213 or equivalent, or consent of instructor.
Derivation and implementation of the finite element method, including boundary value and time dependent problems.

5533 Topics in Solid Mechanics
(3-0) 3 hours credit. Prerequisite: EGR 3213 or equivalent, or consent of instructor.
Topics may include the subjects of advanced solid mechanics, elasticity, plates and shells, and experimental mechanics. May be repeated for credit as topics vary.
5613 New and Emerging Technologies
(3-0) 3 hours credit.

5623 Issues in Engineering Management
(3-0) 3 hours credit.
Practice and dilemmas of the engineering profession. Analyzes the role of engineers in the conception, design, manufacture, and marketing of a sophisticated consumer product. Studies the history of some major industries (e.g., automobile, communications, biotechnology, aerospace, chemical), in 20th Century U.S. Examines political, environmental, economic, social, and ethical implications. Examines issues related to managing engineers and scientists as individuals, in teams, and in large organizations.

MASTER OF SCIENCE DEGREE IN CIVIL ENGINEERING

The Master of Science in Civil Engineering is designed to provide civil engineering professionals with the opportunity to prepare for careers concerned with the critical problems of a multifaceted society. The scope of Civil Engineering education and research activities focus on projects that are typically large and costly, with potentially profound environmental, social, and financial impacts.

A thesis option is offered for those students who desire to have the opportunity to obtain some expertise in research. A non-thesis option is also available for those students who desire a degree oriented to practical industrial applications.

Program Admission Requirements. In addition to satisfying the university-wide graduate admission requirements, the applicant must have:

1. A satisfactory score, as specified by the Graduate Studies Committee for Civil Engineering, on the GRE General Aptitude test.
2. An undergraduate degree in Civil Engineering or closely related field from an accredited institution of higher education or proof of equivalent training at a foreign institution. Students who do not qualify for unconditional admission may be admitted on a conditional basis with remedial course requirements. These remedial courses will not be credited toward the graduate credit hours for the M.S. degree in Civil Engineering.
3. Three letters of recommendation from former instructors or supervisors of employment must be sent directly to the Division of Engineering.

Degree Requirements. The minimum number of graduate semester hours required for the M.S. in Civil Engineering, in addition to the remedial course requirements, is 33 semester hours for non-thesis options and 30 semester hours for a thesis option. At least 24 semester hours must be taken at UTSA. Candidates are required to pass a comprehensive examination and/or a thesis defense administered by the Student’s Advisory Committee, chaired by a full-time graduate faculty member. The degree requirements for different options are as follows:

<table>
<thead>
<tr>
<th>Thesis Option:</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designated Electives (approved in consultation with Chairman of Student’s Advisory Committee)</td>
<td>15</td>
</tr>
<tr>
<td>Free Electives chosen from Graduate Engineering Courses</td>
<td>9</td>
</tr>
<tr>
<td>Thesis</td>
<td>6</td>
</tr>
<tr>
<td>Total Credit Hours Required</td>
<td>30</td>
</tr>
</tbody>
</table>
Non-Thesis Option: Semester Hours
Designated Electives (approved in consultation with Chairman of Student's Advisory Committee) 21
Free Electives chosen from Graduate Engineering Courses 9
Special Project, CE 5973 3
Total Credit Hours Required 33

COURSE DESCRIPTIONS

CIVIL ENGINEERING (CE)

5113 Advanced Structural Analysis
(3-0) 3 hours credit. Prerequisite: CE 3113 or equivalent. Moment distribution, force-deformation relations, stiffness matrix method; prismatic and non-prismatic members, flexibility method, beam column, frame stability, inelastic effects.

5123 Advanced Structural Design
(3-0) 3 hours credit. Prerequisite: CE 3113, CE 3213, CE 3233 or equivalent. Structural behavior, design of trusses, funicular structures; cables and arches, members in bending and compression, continuous structures, plate and grid structures, membrane and pneumatic structures, structural systems; constructional approaches.

5213 Industrial Waste Treatment
(3-0) 3 hours credit. Prerequisite: CE 3633. Survey of industrial wastewater characteristics, biological, chemical and physical treatment processes, selection of appropriate processes, design principles.

5223 Solid Waste Engineering
(3-0) 3 hours credit. Prerequisite: CE 4623 or consent of instructor. Basic concepts in planning, designing, and operating solid waste systems with emphasis placed on state-of-the-art technology and interrelationship of economic, environmental, and institutional aspects.

5413 Topics in Civil Engineering
(3-0) 3 hours credit. Topics may include subjects in risk and decision analysis in engineering management, project management and design and ventures and strategies for environmental, transportation, urban studies and other issues. May be repeated for credit as topics vary.

5973 Special Project
3 hours credit. Prerequisite: Permission in writing (form available) from the instructor and the student's Graduate Advisor of Record. The directed research course may involve either a laboratory or a theoretical problem. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

5991 Graduate Seminar
(1-0) 1 hour credit. Prerequisites: Graduate standing and consent of instructor. May be repeated for credit up to a limit of 2 credit hours.

6951-3 Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and consent of instructor and the student's Graduate Advisor of Record. Supervised research under the direction of a faculty member. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

6961 Comprehensive Examination
1 hour credit. Prerequisite: Approval of the CE Committee on Graduate Studies to take the Comprehensive Examination. Independent study course for the purpose of taking the Comprehensive Examination. May be repeated for credit as many times as approved by the CE Committee on Graduate Studies. Enrollment is required each term in which the Comprehensive Examination is taken if no other courses are being taken that term. The grade report for the course is either CR (satisfactory
performance on the Comprehensive Examination) or NC (unsatisfactory performance on the Comprehensive Examination).

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

6983 Master's Thesis
3 hours credit. Prerequisite: Consent of the Graduate Advisor of Record 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.

MASTER OF SCIENCE DEGREE IN ELECTRICAL ENGINEERING

The Master of Science in Electrical Engineering is a program designed to offer students the opportunity to prepare for leadership roles in careers with industry, government or educational institutions. A thesis option is offered for those students who desire to have the opportunity to obtain some expertise in research. A non-thesis option is also available for those students who desire a practical industrial applications oriented degree.

Program Admission Requirements. In addition to satisfying the university-wide graduate admission requirements, applicants for unconditional admission as a Graduate Degree-Seeking Student must meet the following admission requirements:

1. A Bachelor's degree in Electrical Engineering or a closely related field. Applicants who do not qualify for unconditional admission may be admitted on a conditional basis. Students who are admitted on a conditional basis will be required to satisfy conditions more stringent than those listed below.

2. Students whose undergraduate GPA is less than 3.0 must submit scores from the GRE General Aptitude test.

3. Letters of recommendation from former instructors or supervisors of employment may be requested by the Electrical Engineering Graduate Studies Committee.

Applicants with an Electrical Engineering background who wish to continue their education, but who do not intend to pursue the M.S.E.E. degree, are encouraged to seek admission as Special Graduate Students.

Degree Requirements. The degree requirements for different options are as follows: The following five Core Courses form the basis for the M.S. program in Electrical Engineering:

EE 5123 Digital Systems
EE 5143 Linear Control Theory
EE 5153 Random Signals and Noise
EE 5163 Digital Signal Processing
EE 5173 Electromagnetic Fields and Waves

The requirements for each of these options, with minimum credit hour requirements and their distribution are as follows:

<table>
<thead>
<tr>
<th>Thesis Option:</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Courses (Any 3)</td>
<td>9</td>
</tr>
<tr>
<td>Additional Graduate Electrical Engineering Courses</td>
<td>9'</td>
</tr>
<tr>
<td>Courses from outside Electrical Engineering</td>
<td>6'</td>
</tr>
<tr>
<td>Thesis</td>
<td>6</td>
</tr>
<tr>
<td>Minimum Total Credit Hours Required</td>
<td>30</td>
</tr>
</tbody>
</table>
Non-thesis Option:  
Core Courses (Any 4)  
Additional Graduate Electrical Engineering Courses 12
Courses from outside Electrical Engineering 15
Minimum Total Credit Hours Required 6

All degree plans must be consistent with the guidelines established by the Electrical Engineering Graduate Studies Committee. In addition to other university-wide requirements for the master's degree, all candidates are required to pass a comprehensive examination and/or a thesis defense administered by the Student's Advisory Committee, chaired by a full-time graduate faculty member.

COURSE DESCRIPTIONS

ELECTRICAL ENGINEERING (EE)

5123 Digital Systems  
(3-0) 3 hours credit. Prerequisite: Graduate standing or consent of instructor. 
Description of digital computer systems, arithmetic algorithms, central processor design, memory hierarchies and virtual memory, control unit and microprogramming, input and output, coprocessors, and multiprocessing.

5143 Linear Control Theory  
(3-0) 3 hours credit. Prerequisite: Graduate standing or consent of instructor. 
Advanced methods of analysis and synthesis of control systems, continuous and discrete-time systems, linear system theory.

5153 Random Signals and Noise  
(3-0) 3 hours credit. Prerequisite: Graduate standing or consent of instructor. 
Study of probability theory, random processes, mean and autocorrelation, stationarity and ergodicity, Gaussian and Markov processes, power spectral density, noise, linear systems.

5163 Digital Signal Processing  
(3-0) 3 hours credit. Prerequisite: Graduate standing or consent of instructor. 
Study of discrete-time signals and systems including Z-transforms, fast Fourier transforms, and digital filter theory. Filter design and effects of finite register length, applications to one-dimensional signals.

5173 Electromagnetic Fields and Waves  
(3-0) 3 hours credit. Prerequisite: Graduate standing or consent of instructor. 
Study of vector calculus, Maxwell's equations, electromagnetic waves, dielectrics, boundary conditions. Selected other topics include waveguides, anisotropic crystal optics, transmission lines, fiber optics, reflection and refraction, and special relativity.

5213 Topics in Instrumentation  
(2-3) 3 hours credit. Prerequisites: EE 4453 and EE 5153. 
Topics may include the subjects of miniature transducers and low power systems, implantable systems, and instrumentation standards. May be repeated for credit as topics vary, however no more than 6 credits may be applied to the Master's degree.

5223 Topics in Digital Design  
(3-0) 3 hours credit. Prerequisites: EE 5123 or consent of instructor. 
Topics may include the subjects of VLSI design and testing, switching theory, and computer networks. May be repeated for credit when topics vary.

5243 Topics in Control Systems  
(3-0) 3 hours credit. Prerequisite: EE 5143. 
Topics may include the subjects of nonlinear control systems and multivariable control systems. May be repeated for credit as topics vary.

1Chosen with approval of the Electrical Graduate Studies Committee.
2EGR 5973. Special Project, may be chosen for one of these courses.
5263 Topics in Digital Signal Processing and Digital Filtering
(3-0) 3 hours credit. Prerequisite: EE 5163 or consent of instructor.
Topics may include the subjects of advanced linear systems, adaptive filtering and neural networks, and modern image analysis. May be repeated for credit as topics vary.

5273 Topics in Electro-optics
(3-0) 3 hours credit. Prerequisite: EE 5173 or consent of instructor.
Topics may include the subjects of electro-optics, Fourier optics, and quantum electronics. May be repeated for credit as topics vary.

5543 Topics in Communication Systems
(3-0) 3 hours credit. Prerequisite: EE 5153 or consent of instructor.
Topics may include the subjects of satellite communication systems, error control coding, data communications, and information theory. May be repeated for credit as topics vary.

5973 Special Project
3 hours credit. Prerequisite: Permission in writing (form available) from the instructor and the student's Graduate Advisor of Record.
The directed research course may involve either a laboratory or a theoretical problem. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

5991 Graduate Seminar
(1-0) 1 hour credit. Prerequisites: Graduate standing and consent of instructor. May be repeated for credit up to a limit of 2 credit hours.

6951-3 Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and consent of instructor and the student's Graduate Advisor of Record.
Supervised research under the direction of a faculty member. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

6961 Comprehensive Examination
1 hour credit. Prerequisite: Approval of the EE Committee on Graduate Studies to take the Comprehensive Examination.
Independent study course for the purpose of taking the Comprehensive Examination. May be repeated for credit as many times as approved by the EE Committee on Graduate Studies. Enrollment is required each term in which the Comprehensive Examination is taken if no other courses are being taken that term. The grade report for the course is either CR (satisfactory performance on the Comprehensive Examination) or NC (unsatisfactory performance on the Comprehensive Examination).

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

6983 Master's Thesis
3 hours credit. Prerequisite: Consent of the Graduate Advisor of Record 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.

MASTER OF SCIENCE DEGREE IN MECHANICAL ENGINEERING

The Master of Science in Mechanical Engineering is a program designed to offer students the opportunity to prepare for leadership roles in careers with industry, government or educational institutions. A thesis option is offered for those students who desire to have the opportunity to obtain some expertise in research. A non-thesis option is also available for those students who desire a practical industrial applications oriented degree.
Program Admission Requirements. In addition to satisfying the university-wide graduate admission requirements, applicants must meet the following additional admission requirements:

1. A satisfactory score, as specified by the Graduate Studies Committee for Mechanical Engineering, on the GRE General Aptitude test.

2. A bachelor’s degree in Mechanical Engineering or a bachelor’s degree in a science or other engineering discipline from an accredited institution of higher education. Applicants with a degree in a discipline other than mechanical engineering may be required to make up the deficiencies in the undergraduate mechanical engineering curriculum before unconditional admission to the graduate program will be granted. If such courses are listed as deficiencies, they will not count toward the graduate degree.

3. Letters of recommendation from former instructors or supervisors of employment may be requested by the Mechanical Engineering Graduate Studies Committee.

Degree Requirements. Graduate students are expected to maintain a cumulative GPA of 3.00 in the approved program of study. Students must also pass a comprehensive examination administered by the Student’s Advisory Committee, chaired by a full-time graduate faculty member or co-chaired by both a full-time and adjunct graduate faculty member. Candidates for this degree are required to successfully complete either a thesis or a non-thesis degree. The requirements for each of these options with minimum credit hour requirements and their distributions are as follows:

<table>
<thead>
<tr>
<th>Thesis Option:</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designated Electives (approved in consultation with Chairman of Student’s Advisory Committee)</td>
<td>15</td>
</tr>
<tr>
<td>Free Electives chosen from Graduate Engineering Courses</td>
<td>9</td>
</tr>
<tr>
<td>Master’s Thesis</td>
<td>6</td>
</tr>
<tr>
<td>Minimum Total Credit Hours Required</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-Thesis Option:</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designated Electives (approved in consultation with Chairman of Student’s Advisory Committee)</td>
<td>21</td>
</tr>
<tr>
<td>Free Electives chosen from Graduate Engineering Courses</td>
<td>9</td>
</tr>
<tr>
<td>Special Project, ME 5973</td>
<td>3</td>
</tr>
<tr>
<td>Minimum Total Credit Hours Required</td>
<td>33</td>
</tr>
</tbody>
</table>

COURSE DESCRIPTIONS
MECHANICAL ENGINEERING (ME)

5123 Topics in Mechanical Engineering
(3-0) 3 hours credit.
Topics may include reliability and quality control, maintenance and material issues. May be repeated for credit as topics vary.

5223 Topics in Dynamics
(3-0) 3 hours credit. Prerequisites: ME 3323 or equivalent, and MAT 3263 or equivalent. May be repeated for credit as topics vary.

Topic 1: Advanced Dynamics. Analytical dynamics, including Newton-Euler, Lagrange, and Hamilton’s principles; gyroscopic effects; stability.


Topic 3: Dynamics of Rotating Machinery. Dynamic stability, critical speeds and unbalanced response of rotor-bearing systems; operation through and above critical speeds.
5233 Advanced Thermodynamics
(3-0) 3 hours credit. Prerequisite: ME 3293 or equivalent. Concepts and postulates of macroscopic thermodynamics; formulation of thermodynamic principles; stability of thermodynamic systems. Replaces ME 5113. Credit cannot be earned for both ME 5113 and ME 5233.

5313 Topics in Heat Transfer
(3-0) 3 hours credit. Prerequisite: ME 4313 or equivalent. May be repeated for credit as topics vary.
Topic 1: Conduction. Derivation of governing equations; steady and transient solutions; variable property effects; numerical methods.
Topic 2: Convection. Derivation of equations of convection of mass, momentum and energy; boundary layer solutions; classical laminar convection problems; turbulent convection.
Topic 3: Radiation. Thermal radiation laws; geometric factors; black bodies; gray enclosures; non-gray systems; combined conduction, convection and radiation.

5413 Topics in Mechanical Vibrations
(3-0) 3 hours credit. Prerequisites: ME 4513 or equivalent, and MAT 3263 or equivalent. May be repeated for credit as topics vary.
Topic 1: Mechanical Vibrations. Dynamics of high-order lumped-component systems, modal testing, system identification, design and control; approximate methods.
Topic 3: Random Vibrations. Randomly excited mechanical systems and structures; stationary and ergodic processes; first passage and fatigue failures; data analysis techniques.

5523 Topics in Mechanical Engineering Design
(3-0) 3 hours credit. Prerequisite: ME 3523 or equivalent. May be repeated for credit as topics vary.
Topic 1: Advanced Mechanism Design. Advanced kinematic synthesis of planar mechanisms, computer-aided design of mechanisms, curvature theory, and dynamics of mechanisms.
Topic 2: Advanced Machine Design. Advanced problems in design including bearings, brakes and clutches, gears, shafts, springs; advanced stress analysis.

5663 Topics in Fluid Dynamics
(3-0) 3 hours credit. Prerequisite: ME 3663 or equivalent. May be repeated for credit as topics vary.
Topic 1: Advanced Fluid Mechanics. Dynamics of incompressible and compressible fluids; viscous flow; Navier-Stokes equations; boundary layer theory; applications to machinery design.
Topic 2: Two-phase Flow. Basic treatment of two-phase flow; detailed analysis of flow of suspended particles, bubbles, mists; analysis of slug and annular flows; measurement techniques.
Topic 3: Advanced Gas Dynamics. Unsteady flow, hydraulic analogy for gas dynamics; hypersonic gas dynamics applied to slender and blunt bodies.

5973 Special Project
3 hours credit. Prerequisite: Permission in writing (form available) from the instructor and the student's Graduate Advisor of Record. The directed research course may involve either a laboratory or a theoretical problem. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

5991 Graduate Seminar
(1-0) 1 hour credit. Prerequisites: Graduate standing and consent of instructor. May be repeated for credit up to a limit of 2 credit hours.
6951-3 Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and consent of instructor and the student's Graduate Advisor of Record. Supervised research under the direction of a faculty member. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

6961 Comprehensive Examination
1 hour credit. Prerequisite: Approval of the ME Committee on Graduate Studies to take the Comprehensive Examination. Independent study for the purpose of taking the Comprehensive Examination. May be repeated for credit as many times as approved by the ME Committee on Graduate Studies. Enrollment is required each term in which the Comprehensive Examination is taken if no other courses are being taken that term. The grade report for the course is either CR (satisfactory performance on the Comprehensive Examination) or NC (unsatisfactory performance on the Comprehensive Examination).

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

6983 Master's Thesis
3 hours credit. Prerequisite: Consent of the Graduate Advisor of Record 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 LIFE SCIENCES
MASTER OF SCIENCE DEGREE IN BIOLOGY

The graduate program offers opportunities for advanced study and research leading to the M.S. degree in Biology in two general areas: Molecular Cell Biology and General Physiology. A thesis option is offered to students desiring an opportunity to develop expertise in research techniques and data analysis; a non-thesis option is offered for those who desire to have the opportunity to earn the M.S. degree primarily through organized course work. The thesis option is recommended for students who are planning a career in research or who contemplate pursuing a doctorate in one of the life sciences. The non-thesis option might be suitable for students interested in secondary school teaching in the life sciences.

Graduate faculty research interests include Biochemistry, Cellular Biology, Developmental Biology, Ecology, Genetics, Microbiology, Neurobiology, Physiology, and Plant Sciences. The multidisciplinary nature of the program also allows students the opportunity to broaden their educational background at the graduate level. Individual programs are organized around each student's interests in consultation with the student's Graduate Advisor.

Qualified students are encouraged to apply for teaching assistantships and fellowships. Requests should be directed to the Director of the Division of Life Sciences at the same time application is made for admission to the University of Texas at San Antonio.

Program Admission Requirements. In addition to satisfying the university-wide graduate admission requirements, applicants are expected to have completed an undergraduate major in one of the biological sciences, with course work comparable to that required for the Bachelor of Science Degree in Biology at UTSA. Students whose undergraduate preparation is deficient in certain areas, but who meet the minimum University standards for admission, may be admitted and required to complete specific undergraduate or graduate courses as conditions of admission. In such cases, students should anticipate that additional time will be required to complete the degree. All applicants must submit two letters of recommendation directed to the Chairperson of the Graduate Studies Committee, Division of Life Sciences. In addition, applicants must submit scores from the Graduate Record Examination with their application.

Degree Requirements. All candidates for the degree are required to complete a minimum of 36 semester hours of graduate credit that has been approved by the student's Graduate Advisor of Record. 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. This total may include up to 6 hours of approved upper division undergraduate course work, and a maximum of 3 semester hours earned in a graduate seminar (BIO 5053).

2. An additional 18 hours of graduate credit as approved by the Graduate Advisor of Record. This total may include a maximum of 6 hours of Directed Research (BIO 5973). For students electing the non-thesis option, a minimum of 3 hours of Directed Research (BIO 5973) must be included. Students electing the thesis option must complete 6 hours of Master's Thesis (BIO 6983) as part of this total.

As specified by University regulations, all students must pass a comprehensive examination administered by their Graduate Committee. This exam is normally given in the semester prior to the semester during which degree requirements are to be completed. Students electing the thesis option also must successfully defend their thesis research results before their Graduate Committee prior to the submission of the thesis to the Vice President for Academic Affairs for approval.
COURSE DESCRIPTIONS

BIOLOGY (BIO)

5041 Life Sciences Colloquium
(1-0) 1 hour credit. Prerequisite: Graduate standing.
Formal presentations of research by outside authorities in the biological sciences. May be repeated for credit.

5053 Seminar in Life Sciences
(3-0) 3 hours credit. Prerequisite: Graduate standing.
Discussions, current literature and recent advances in specialized areas of the biological sciences, Seminars are organized according to areas of interest. May be repeated but no more than 3 hours may be applied to the degree.

5263 Microbial Ecology
(3-0) 3 hours credit. Prerequisite: BIO 3713 or consent of instructor.
Interrelationships between microorganisms and their environment, including natural habitats of microorganisms, normal human flora and pathogens. Special consideration will be given to application of genetically engineered microorganisms to environmental problems.

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.

5333 Advanced Population Genetics
(3-0) 3 hours credit. Prerequisites: BIO 2313 and BIO 2322 or the equivalents. Biostatistics highly recommended.
An experimental approach to the interaction of genotype and environment in populations with emphasis on mutagenesis, selection, polymorphism, and adaptive mechanisms.

5353 Molecular and Biochemical Genetics
(3-0) 3 hours credit. Prerequisites: BIO 2313 and BIO 3513 or the equivalents.
Molecular and biochemical aspects of structure, replication, mutation and phenotypic expression of genetic material.

5363 Microbial Genetics
(3-0) 3 hours credit. Prerequisites: BIO 2313 and BIO 3713 or the equivalents.
A study of bacterial, fungal and viral genetics. Emphasis on the current literature, data interpretation and experimental techniques.

5403 Advanced Comparative Animal Physiology
(3-0) 3 hours credit. Prerequisite: BIO 4353 or the equivalent.
Physiology of the organs and organ systems of animals.

5423 Neuroanatomy
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
The anatomy of the vertebrate nervous system.

5433 Neurophysiology
(3-0) 3 hours credit. Prerequisite: BIO 4353 or the equivalent.
Physiology of the nervous system. Emphasis on sensory and motor systems and neural correlations of behavior.

5443 Neurochemistry
(3-0) 3 hours credit. Prerequisites: BIO 3513, 3522, and 4433.
An examination of basic biochemical phenomena involved in normal neural processes and some pathological changes associated with neurobiological diseases and disorders.

5463 Reproductive Biology
(3-0) 3 hours credit. Prerequisites: Courses in organ physiology and endocrinology or consent of instructor.
A comparative study of mammalian reproduction with emphasis on vertebrate/ mammalian reproduction, including cellular and systems mechanisms, hormonal regulation, and the effects of environmental factors.
5503 **Sensory Physiology**  
(3-0) 3 hours credit. Prerequisite: BIO 4433 or consent of instructor.  
Principles of sensory physiology including sensory transduction and central processing of sensory information in vertebrate and invertebrate species.

5513 **Advanced Biochemistry**  
(3-0) 3 hours credit. Prerequisite: BIO 3513 or the 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, and regulation.

5543 **Pharmacology and Toxicology**  
(3-0) 3 hours credit. Prerequisites: BIO 3513, 3522, 3413, and 3422.  
A review of the beneficial, adverse, and toxic reactions of individuals to a variety of drugs and environmental substances. Chemical, biochemical, pharmacological, toxicological, genetic, teratogenic, and pathological aspects will be examined.

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**  
1 to 3 hours credit. Prerequisite: Consent of instructor.  
Topics will include research methods in cell and molecular biology, molecular neurobiology, and microbiology. 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. Prerequisite: Graduate standing in the Life Sciences.  
A detailed study of the diversity of viruses and biochemical mechanisms for their replication.

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.

5973 **Directed Research**  
3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor and the student’s Graduate Advisor of Record. The directed research course may involve either a laboratory or a theoretical problem. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master’s degree.

6113 **Advanced Plant Physiology**  
(3-0) 3 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.

6133 **Methods In Field Biology**  
(3-0) 3 hours credit. Prerequisite: BIO 3283 or the equivalent.  
Examination of techniques to collect, identify, and preserve plants and animals. Field methods used in the analysis of populations and communities will be considered.

6213 **Advanced Ecology**  
(3-0) 3 hours credit. Prerequisite: BIO 3283 or the equivalent.  
Interaction of organisms with their environment, allelopathy, competition, distribution, succession, and factors that control growth and dispersal. Special consideration will be given to the concepts of climax, succession, and land management.
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.

6483 **Animal Behavior**  
(3-0) 3 hours credit. Prerequisite: BIO 3413 or consent of instructor.  
An examination of neural, endocrine, genetic and environmental determinants of behavior.

6553 **Fermentation Science**  
(3-0) 3 hours credit. Prerequisite: BIO 3713 and 3722 or the equivalent.  
The principles and theory underlying industrial fermentations such as vessel design and construction, media design, upscaling fermentations, process control and product isolation.

6563 **Food Science and Technology**  
(3-0) 3 hours credit. Prerequisite: BIO 3713 and 3722 or the equivalent.  
The science underlying industrial processes related to foods. The latest applications of technologies such as strain isolation and improvement, raw material selection and storage, process monitoring and the assessment of chemical and microbiological status of products.

6643 **Cellular and Molecular Biology**  
(3-0) 3 hours credit. Prerequisite: BIO 3513 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.

6773 **Host-Parasite Interactions**  
(3-0) 3 hours credit. Prerequisite: BIO 3713 or consent of instructor.  
A study of infectious disease processes with emphasis on host-parasite relationships of selected microbial pathogens.

6803 **Advanced Immunology and Immunochemistry**  
(3-0) 3 hours credit. Prerequisite: BIO 4743 or consent of instructor.  
The study of current concepts of humoral and cell-mediated immunity with emphasis on molecular mechanisms.

6823 **Molecular Radiation Biology**  
(3-0) 3 hours credit. Prerequisite: BIO 3513 or consent of instructor.  
A study of biological effects of ionizing and non-ionizing radiation with emphasis on repair mechanisms of radiation damage at the cellular and subcellular level. Applications in cancer therapy will be included.

6873 **Microbial Physiology and Energetics**  
(3-0) 3 hours credit. Prerequisite: BIO 3713 or consent of instructor.  
Consideration of physiological activities of microorganisms with special emphasis on metabolic capabilities of bacteria and other microorganisms.

6951-3 **Independent Study**  
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor and the student’s Graduate Advisor of Record.  
Supervised research under the direction of a faculty member. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master’s degree.

6961 **Comprehensive Examination**  
1 hour credit. Prerequisite: Approval of the appropriate Committee on Graduate Studies to take the Comprehensive Examination.  
Independent study course for the purpose of taking the Comprehensive Examination. May be repeated as many times as approved by the Committee on Graduate Studies. Enrollment is required each term in which the Comprehensive Examination is taken if no other courses are being taken that term. The grade report for the course is either CR (satisfactory performance on the Comprehensive Examination) or NC (unsatisfactory performance on the Comprehensive Examination).
Master of Science Degree in Biotechnology

6973 **Topics in Modern Biology**
3 hours credit. Prerequisite: Consent of instructor.
An organized course offering the opportunity for specialized study not normally or not often available as part of the regular course offerings. This course may be repeated for credit when the topics vary, but not more than six (6) hours, regardless of discipline, may be applied to the Master’s degree.

6983 **Master’s Thesis**
3 hours credit. Prerequisites: 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.

**MASTER OF SCIENCE DEGREE IN BIOTECHNOLOGY**

The M.S. in Biotechnology offers opportunities for advanced study and research related to the rapidly developing fields of applied biology. A broad common base of knowledge for biotechnology is provided in the M.S. degree by a comprehensive core curriculum that encompasses key areas in Biology, Computer Science, and Statistics. Additional course work for the degree is selected from one of four concentrations from which specialized courses may be chosen. These concentrations are: (1) Molecular Neurobiology, (2) Quantitative Biology, (3) Bioprocessing Technology, and (4) Molecular Toxicology. The opportunity to develop additional technical expertise is also available through Directed Research.

**Program Admission Requirements.** In addition to satisfying the university-wide graduate requirements, applicants are expected to have completed an undergraduate major in the sciences with course work comparable to the core required for the Bachelor of Science Degree in Biology at UTSA. Students must also have completed courses equivalent to BIO 3713, 3722 (Microbiology and Laboratory) and CS 1073 (introductory Computer Programming for Scientific Applications). Students electing the concentration in Quantitative Biology must have had a course equivalent to MAT 1214 (Calculus 1). Students whose undergraduate preparation is deficient in certain areas, but who meet the minimum University standards for admission, may be admitted and required to complete specific undergraduate or graduate courses as conditions of admission. If such courses are listed as deficiencies, they will not count toward the graduate degree for the student. In such cases, students should anticipate that additional time will be required to complete the degree. All applicants must submit two letters of recommendation directed to the Chairperson of the Committee on Graduate Studies for the Master of Science Degree in Biotechnology, Division of Life Sciences. In addition, applicants must submit scores from the Graduate Record Examination with their application.

**Degree Requirements.** All candidates for the degree will be required to complete a minimum of 36 semester hours of graduate credit that has been approved by the student’s Graduate Advisor of Record. All candidates for the degree must complete the Biotechnology Core Curriculum and the requirements for one Concentration.

1. **Biotechnology Core Curriculum** (18 Semester Credit Hours)

   BIO 5053 Seminar in Life Sciences—(Biotechnology)
   BIO 5353 Molecular and Biochemical Genetics
   BIO 5513 Advanced Biochemistry
   BIO 6643 Cellular and Molecular Biology
   BIO 6803 Advanced Immunology and Immunochemistry
   STA 5073 Methods of Statistics I

2. **Biotechnology Electives** (18 Semester Credit Hours)
   Each student must complete 18 semester hours of Biotechnology Electives, at least 9 hours of which must be selected from a single Concentration.

**Concentration 1. Molecular Neurobiology**
BIO 5423 Neuroanatomy
BIO 5433 Neurophysiology
BIO 5443 Neurochemistry
BIO 5523 Enzymes
BIO 5563 Biochemical Macromolecules
BIO 5571-3 Experimental Techniques in Life Sciences
BIO 5833 Membrane Structure and Function

**Concentration 2: Quantitative Biology**

STA 5083 Methods of Statistics 11
CS 5103 Software Design Methodology
CS 5143 Software Configuration Management
CS 6633 Simulation Techniques

**Concentration 3: Bioprocessing Technology**

BIO 5363 Microbial Genetics
BIO 5523 Enzymes
BIO 5563 Biochemical Macromolecules
BIO 5571-3 Experimental Techniques in the Life Sciences—Monoclonal Antibodies and Flow Cytometry
BIO 5571-3 Experimental Techniques in the Life Sciences—Recombinant DNA and Somatic Cell Genetics
BIO 6553 Fermentation Science
BIO 6563 Food Science and Technology
BIO 6873 Microbial Physiology and Energetics

**Concentration 4: Molecular Toxicology**

BIO 5423 Neuroanatomy
BIO 5443 Neurochemistry
BIO 5543 Pharmacology and Toxicology
BIO 6483 Animal Behavior

3. **Directed Research**

Students also may elect to develop expertise in research techniques in a selected emphasis on Biotechnology through Directed Research (BIO 5973). As specified by the University regulations, all students must pass a comprehensive examination administered by a committee appointed by the Vice President for Academic Affairs. This examination will normally be given in the semester prior to the semester during which the degree requirements are to be completed.
DIVISION OF MATHEMATICS, COMPUTER SCIENCE, AND STATISTICS

MASTER OF SCIENCE DEGREE IN MATHEMATICS

The Master of Science Degree in Mathematics is offered with three concentrations:
Concentration 1. Mathematics
Concentration 2. Statistics
Concentration 3. Mathematics Education

Program Admission Requirements. In addition to satisfying the university-wide graduate admission requirements, it is highly recommended that at least a B.A. or B.S. in mathematics or statistics 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 degrees. All applicants are required to submit scores from the Graduate Record Examination Aptitude Test (GRE).

Degree Requirements. Candidates for this degree are required to complete successfully 36 semester hours of credit.

1. All candidates for the Master of Science in Mathematics, regardless of concentration, must complete the following 9 hours of course work:
   MAT 5203 Theory of Functions of a Real Variable I
   MAT 5283 Linear Algebra and Matrix Theory
   STA 5503 Mathematical Statistics I

2. In addition, a candidate for the Master of Science in Mathematics must complete the required courses for one of the concentrations declared by the candidate.
   (1) Concentration in Mathematics required courses: 9 semester hours.
      MAT 5173 Algebraic Structures
      MAT 5223 Theory of Functions of a Complex Variable I
      MAT 5603 Numerical Analysis
   (2) Concentration in Mathematics Education required courses: 9 semester hours.
      MAT 5023 Problem Solving Seminar
      MAT 5033 Foundations and Fundamental Concepts of Mathematics
      MAT 5043 Euclidean and Non-Euclidean Geometry
   (3) Concentration in Statistics required courses: 9 semesters hours.
      STA 5413 Non-Parametric Statistics
      STA 5513 Mathematical Statistics II
      STA 5713 Linear Models I

3. 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 approved by the Graduate Advisor of Record.

4. An additional 12 hours of course work must normally be chosen from eligible graduate courses within the Division of Mathematics, Computer Science, and Statistics. However, a maximum of 6 semester hours of graduate work from other disciplines approved by the Graduate Advisor of Record may be applied toward these 12 hours. Students pursuing the concentration in Mathematics Education may apply a maximum of 9 semester hours of graduate course-work chosen from other disciplines as approved by the Graduate Advisor of Record.

5. Each candidate for the degree is required to pass an advanced comprehensive examination or successfully defend his or her thesis research results.
COURSE DESCRIPTIONS
MATHEMATICS
(MAT)

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. May not be applied toward the Master of Science Degree in Mathematics or to the
Master of Science Degree in Computer Science.

5023 Problem Solving Seminar
(3-0) 3 hours credit.
Students will have the opportunity to engage in extensive experience and practice in solving
mathematical problems. This course can only be applied to majors in Mathematics with a
concentration in Mathematics Education.

5033 Foundations and Fundamental Concepts of Mathematics
(3-0) 3 hours credit.
Topics include the study of mathematics in antiquity as an empirical science, the shift from
inductive reasoning to axiomatic structures, the development of geometry in the plane and
3-space, the discovery of analysis, the emergence of axiomatic systems and the focus on
algebraic structures. This course can only be applied to majors in Mathematics with a
concentration in Mathematics Education.

5043 Euclidean and Non-Euclidean Geometry
(3-0) 3 hours credit.
Topics will be selected from advanced euclidean and non-euclidean geometry, solid analytic
geometry and differential geometry. This course can only be applied to majors in Mathematics
with a concentration in Mathematics Education.

5173 Algebraic Structures
(3-0) 3 hours credit. Prerequisite: MAT 4233 or consent of instructor.
The opportunity for 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 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 3213 or MAT 4213.
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.

5263 Applied Algebra
(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.
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 the equivalent.
Direct and iterative methods for solving general linear systems, the algebraic eigenvalue
problem, least squares problems, and solutions of sparse systems arising from partial differ-
etial equations. Same as CS 5293. Credit cannot be earned for both MAT 5293 and CS
5293.

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.

5403 Functional Analysis
(3-0) 3 hours credit. Prerequisites: MAT 2233, MAT 4273, and MAT 5203 or the equivalent.
Inner product spaces, normed spaces, Hilbert spaces and Banach spaces, dual spaces,
Hahn-Banach Theorem, bounded linear operators.

5603 Numerical Analysis
(3-0) 3 hours credit. Prerequisite: MAT 3633 or consent of instructor.
Emphasis on numerical methods of the mathematical analysis of numerical methods. Areas of study include solution
of nonlinear equations and function optimization, approximation theory and numerical quadra-
ture. Same as CS 5603. Credit cannot be earned for both MAT 5603 and CS 5603.

5613 Numerical Solutions of Differential Equations
(3-0) 3 hours credit. Prerequisite: MAT 5603 or the equivalent.
Emphasis on the mathematical analysis of numerical methods. Areas of study include the
analysis of single and multistep methods of ordinary differential equations. Analysis of finite
difference and finite element methods for partial differential equations. Same as CS 5613. Credit cannot be earned for both MAT 5613 and CS 5613.

5653 Partial Differential Equations I
(3-0) 3 hours credit. Prerequisite: MAT 2233.
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 Partial 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 III
(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.

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.

5973 Directed Research
3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of
the instructor and the student's Graduate Advisor of Record.
The directed research course may involve either a laboratory or a theoretical problem. May be
repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the
Master's degree.

6603 Optimization Techniques In Operations Research
(3-0) 3 hours credit. Prerequisites: MAT 2213, MAT 2233 or consent of instructor.
Analysis and application of optimization techniques in operations research, Emphasis on
linear programming, non-linear programming, integer programming.
6953 **Independent Study**
3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor and the student's Graduate Advisor of Record 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.

6961 **Comprehensive Examination**
1 hour credit. Prerequisite: Approval of the appropriate Committee on Graduate Studies to take the Comprehensive Examination. Independent study course for the purpose of taking the Comprehensive Examination. May be repeated as many times as approved by the Committee on Graduate Studies. Enrollment is required each term in which the Comprehensive Examination is taken if no other courses are being taken that term. The grade report for the course is either CR (satisfactory performance on the Comprehensive Examination) or NC (unsatisfactory performance on the Comprehensive Examination).

6973 **Special Problems**
3 hours credit. Prerequisite: Consent of instructor. An organized course offering the opportunity for 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: Permission of the Graduate Advisor of Record 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

### STATISTICS

#### (STA)

**5073 Methods of Statistics I**
(3-0) 3 hours credit. Prerequisite: Knowledge of algebra. This course cannot be applied to the major in Mathematics, Computer Science, and Statistics without the recommendation of the Committee on Graduate Studies and approval of the Division Director and Dean. Emphasis on methods and applications of statistics. Measure of location, variability and association. Interpretation of categorical data. Hypothesis testing. Use of packaged programs. Applications.

**5083 Methods of Statistics II**
(3-0) 3 hours credit. Prerequisite: STA 5073. This course cannot be applied to the major in Mathematics, Computer Science, and Statistics without the recommendation of the Committee on Graduate Studies and approval of the Division Director and Dean. A continuation of STA 5073 with emphasis on linear statistical models. Use of packaged programs. Applications.

**5103 Applied Statistical Methods**
(3-0) 3 hours credit. Prerequisite: STA 3523 or equivalent. Topics in applied statistics which may include maximum likelihood estimation and its properties, likelihood ratio tests. Procedures in regression and model fitting. Transformations of data. Analysis of variance and others.

**5133 Data Analysis with Statistical Software**
(3-0) 3 hours credit. Prerequisites: CS 1713 and STA 3523, or equivalent. Statistical analysis of data sets using SAS and several other popular statistical software packages such as SPSSX, BMDP, and MINITAB. Manipulation of data sets and production of reports and graphs. Emphasis on linear models and multivariate procedures. Importing and exporting data from one package to another. Programming in the SAS MATRIC/IML language.
5253 **Applied Time Series Analysis**  
(3-0) 3 hours credit. Prerequisite: STA 5103 or consent of instructor.  
Representation of dynamic relations by difference equations. Autoregressive integrated moving average models. Identification fitting and diagnostic checking for models. Seasonal model application to forecasting in various applied areas.

5313 **Theory of Sample Surveys with Applications**  
(3-0) 3 hours credit. Prerequisite: STA 3523.  
Basic sampling techniques and their comparisons for finite populations. Topics include simple random sampling, stratified random sampling, ratio and regression estimates, systematic sampling cluster sampling, multistage and double sampling.

5413 **Non-Parametric Statistics**  
(3-0) 3 hours credit. Prerequisite: STA 5103 or consent of instructor.  
Order statistics, test of goodness of fit, rank-order statistics, linear rank statistics for problems involving location and scale, association in multiple classifications, asymptotic relative efficiency.

5503 **Mathematical Statistics I**  
(3-0) 3 hours credit. Prerequisites: MAT 4213 and STA 3513.  
Axioms of probability, random variables and probability distributions, sampling distributions, stochastic convergence.

5513 **Mathematical Statistics II**  
(3-0) 3 hours credit. Prerequisite: STA 5503.  
Sufficient statistics, unbiased estimation. likelihood ratio test, sequential probability ratio test, decision theory.

5553 **Bayesian Statistics**  
(3-0) 3 hours credit. Prerequisite: STA 5103 or 5513.  
Subjective probability, utility theory, decision theory, prior and conjugate prior distributions, posterior distributions, estimation and tests of hypotheses, linear models, sequential sampling.

5713 **Linear Models I**  
(3-0) 3 hours credit. Prerequisites: STA 5103 and MAT 2233 or equivalents. STA 4723 is strongly recommended but not required.  
Generalized inverse of matrix, least squares estimation in fixed models, linear estimable functions and Gauss-Markov theorem, multivariate normal distribution and distribution of quadratic forms, likelihood ratio tests in fixed models, analysis of variance. Applications in full rank models and balanced models.

5723 **Linear Models II**  
(3-0) 3 hours credit. Prerequisite: STA 5713.  
Analysis of covariance, unbalanced models, random and mixed models, inference on variance components, use of packaged programs.

5803 **Advanced Statistical Quality Control**  
(3-0) 3 hours credit. Prerequisite: STA 3523 or STA 5503.  
Acceptance sampling by attributes and by variables, military standard plans, rectifying inspection: tolerance limits; control chart for fraction defective, number of defects, and variables; cumulative sum control charts, recent advances in control chart and acceptance sampling techniques.

5813 **Multivariate Analysis I**  
(3-0) 3 hours credit. Prerequisites: MAT 2233 and either STA 5103 or consent of instructor.  
Multivariate normal distribution, estimation of mean vector and covariance matrix, Hotelling's $T^2$, Wishart distribution, multivariate linear hypothesis testing and analysis of variance.

5823 **Multivariate Analysis II**  
(3-0) 3 hours credit. Prerequisite: STA 5813.  
Tests concerning covariance matrices, canonical correlation, principal components, factor analysis, cluster analysis. Application of packaged programs.
5853 Analysis of Categorical Data
(3-0) 3 hours credit. Prerequisite: STA 5103 or consent of instructor.
Analysis of multi-factor contingency tables: linear and log-linear models, inference in complete
and incomplete tables, model selection and assessing goodness of fit, other methods of
estimation such as information theoretic approach minimum chi-square and logit chi-square,
measures of association. Models of discrete data.

5903 Theory of Reliability and Life Testing
(3-0) 3 hours credit. Prerequisite: STA 5503 or consent of instructor.
Probabilistic failure models, estimation and tests of hypotheses regarding these models,
distribution-free methods. accelerated life testing, system reliability and maintenance policies.

5993 Special Topics in Statistics
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering the opportunity for specialized study not normally or not often
available as part of the regular course offerings. May be repeated for credit when the topics
vary, but not more than 6 hours will apply to the Master's degree.

6983 Master's Thesis
3 hours credit. Prerequisites: Permission of the Graduate Advisor of Record 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.

MASTER OF SCIENCE DEGREE IN COMPUTER SCIENCE

The graduate program in Computer Science offers integrated studies involving software,
hardware and mathematics leading to the M.S. degree. A thesis option is available for
those students who desire to have the opportunity to obtain some expertise in research. All
applicants are required to submit scores from the Graduate Record Examination Test
(GRE).

Program Admission Requirements. In addition to satisfying the university-wide gradu-
ate admission requirements, a B.A. or B.S. in computer science, equivalent to that offered
by UTSA, is required as preparation. Those students who do not qualify for unconditional
admission may be admitted on a conditional basis. Students who are admitted on a
conditional basis may be required to complete specific undergraduate courses as condi-
tions of admission. If such courses are listed as deficiencies, they will not count toward the
graduate degree. In such cases, students should anticipate that additional time will be
required to complete the degree.

Degree Requirements. Candidates for this degree are required to successfully complete
36 semester hours of graduate course work subject to the following conditions:

1. Twenty-one (21) hours of eligible graduate Computer Science courses within
the Division of Mathematics, Computer Science, and Statistics including the
following three courses:
   CS 5353  Formal Languages, Automata and Theory of Computation
   CS 5443  Data Base Management Systems I
   CS 5513  Modern Computer Architecture
and at least two courses chosen from the following list of four courses:
   CS 5233  Artificial Intelligence I—Theory
   CS 5453  Data Base Management Systems II
   CS 5523  Operating Systems
   CS 5633  Analysis of Algorithms

2. Nine (9) hours of eligible graduate courses within the Division of Mathematics,
Computer Science, and Statistics subject to the following restrictions:
With the prior approval of the Graduate Advisor of Record, a student may apply a maximum of 6 hours of graduate courses from other disciplines to the M.S. degree.

3. Each student in the Master's program is required either to write a Master's thesis and enroll in 6 hours of course work in CS 6983, or complete 6 hours of additional graduate course work as approved by the Graduate Advisor of Record. Completion of the Master's thesis requires a successful oral defense.

4. Each candidate for the degree is required to give a public lecture followed by an oral examination on a topic approved by the Committee on Graduate Studies, or successfully defend his or her thesis research results.

COURSE DESCRIPTIONS
COMPUTER SCIENCE (CS)

5003 Computer Literacy (3-0) 3 hours credit.
This course is designed for educators who need a basic computer course so that intelligent decisions may be made concerning the issues of computers in the classroom. Students will have the opportunity to learn the vocabulary, the workings and capabilities of the computer and programming in BASIC and Pascal languages. May not be applied toward the Master of Science Degree in Mathematics or to the Master of Science Degree in Computer Science.

5023 Computers for Mathematics Teachers (3-0) 3 hours credit.
A course for mathematics teachers on integrating the computer into the mathematics curriculum with an algorithmic-oriented introduction to computer programming in BASIC and Pascal. This course can only be applied to graduate majors in Mathematics with a concentration in Mathematics Education.

5103 Software Design Methodology (3-0) 3 hours credit. Prerequisites: CS 2733 and CS 2743.
Discussion of issues relevant to the development of large software systems such as: specification, design and synthesis of reliable software, proof of correctness, self-checking software, reconfiguration, recovery, fault-tolerant systems, system reliability modeling.

5113 Computer Graphics (3-0) 3 hours credit. Prerequisites: CS 2743 and MAT 2233.
The course emphasizes generative computer graphics, interactive construction of graphic objects, data base design, composite object construction, and hidden-surface algorithmic techniques. Specifically, the emphasis is on vector graphic devices and on the production of high-resolution images.

5133 Software Testing (3-0) 3 hours credit. Prerequisites: CS 3233 and CS 5103.
The course considers the various aspects of software testing: test tools, high order testing, debugging, code inspections, passive testing, test plan development, test procedures, documentation, economic issues and management factors.

5143 Software Configuration Management (3-0) 3 hours credit. Prerequisite: CS 5103.
The course considers the aspects of managing the configuration of software during its lifecycle. Topics include: identification, control, auditing, and status accounting. Simulation of a configuration control board process.

5233 Artificial Intelligence I—Theory (3-0) 3 hours credit. Prerequisites: CS 5353 and CS 3723, and knowledge of LISP. This course studies the area of artificial intelligence from the standpoint of a general problem solving technique. Major topics covered include methods of search and knowledge representation. Programming projects will be in LISP.
5243 Artificial intelligence II—Application
(3-0) 3 hours credit. Prerequisite: CS 5233.
This course studies the area of artificial intelligence through the analysis of example systems. Major topics covered include expert systems, natural language processing, intelligent tutoring, machine perception, and robotics. Programming projects will use advanced programming tools.

5253 Expert Systems
(3-0) 3 hours credit. Prerequisite: CS 5233.
This course presents an in-depth study of the area of artificial intelligence known as expert systems. Example expert systems will be examined as a means of identifying the generally accepted methodologies for developing such systems as well as the basic research issues involved.

5293 Numerical Linear Algebra
(3-0) 3 hours credit. Prerequisite: MAT 3633, or the equivalent.
Direct and iterative methods for solving general linear systems, the algebraic eigenvalue problem, least squares problems, and solutions of sparse systems arising from partial differential equations. Same as MAT 5293. Credit cannot be earned for both CS 5293 and MAT 5293.

5353 Formal Languages, Automata and Theory of Computation
(3-0) 3 hours credit. Prerequisites: CS 2743 and CS 3233.
Formal models of computation and syntax.

5363 Structure of Programming Languages and Compilers
(3-0) 3 hours credit. Prerequisite: CS 5353.
A study of modern programming languages with emphasis on their implementation. Topics include scanning, parsing, syntax-directed translation, code generation, and optimization. (Formerly CS 5303).

5443 Data Base Management Systems I
(3-0) 3 hours credit. Prerequisites: CS 3233 and CS 3743.
Design and implementation of techniques for information retrieval in data base management systems.

5453 Data Base Management Systems II
(3-0) 3 hours credit. Prerequisite: CS 5443.
Consideration of special problems such as: integrity and security; restructuring adaptive data structures; recovery and restart; distributed data bases; data base hardware architecture; intelligent front-ends.

5513 Modern Computer Architecture
(3-0) 3 hours credit. Prerequisites: CS 3733 and CS 4753.
Study of modern computer architecture, including parallel computers, multiprocessors, pipelines, and fault tolerance.

5523 Operating Systems
(3-0) 3 hours credit. Prerequisite: CS 5513.
Operating systems concepts with emphasis on concurrency, abstraction, security and reliability. Distributed operating systems and network control will be discussed.

5533 Advanced Topics In Computer Systems
(3-0) 3 hours credit. Prerequisite: CS 5523.
Areas of study include advanced architectures, interconnected systems, distributed computer systems, computer networks, and computer communications.

5543 Local Area Networks
(3-0) 3 hours credit. Prerequisite: CS 5523.
A study of networks of interacting computers within local work environments. Topics include standards, equipment, interfaces, protocols, architectures and transmission alternatives. Effective use of local area networks will be covered.

5553 Performance Evaluation and Measurement of Information and Computing Systems (3-0) 3 hours credit. Prerequisite: CS 4753.
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. Examination of techniques for performance evaluation and projection including benchmarks, traces, synthetics workloads, analytic modeling and simulation.

5563 Continuous Time Simulation
(3-0) 3 hours credit. Prerequisite: MAT 3633.

5603 Numerical Analysis
(3-0) 3 hours credit. Prerequisite: MAT 3633 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. Same as MAT 5603. Credit cannot be earned for both CS 5603 and MAT 5603.

5613 Numerical Solutions of Differential Equations
(3-0) 3 hours credit. Prerequisite: MAT 5603 or the equivalent.
Emphasis on the mathematical analysis of numerical methods. Areas of study include the analysis of single and multistep methods of ordinary differential equations. Analysis of finite difference and finite element methods for partial differential equations. Same as MAT 5613. Credit cannot be earned for both CS 5613 and MAT 5613.

5633 Analysis of Algorithms
(3-0) 3 hours credit. Prerequisite: CS 3233.
Models of computation, design techniques such as divide-and-conquer and dynamic programming, graph algorithms, sets and union-find. Additional topics chosen from pattern matching, integer and polynomial arithmetic and the fast Fourier transform.

5643 Parallel Processing
(3-0) 3 hours credit. Prerequisites: CS 5513.
Parallel models of computation, performance measurement and modeling of parallel algorithms and application studies on parallel computers.

5703 Microprogramming
(3-0) 3 hours credit. Prerequisite: CS 4753, or equivalent.

5723 Microcomputer Systems
(2-3) 3 hours credit. Prerequisite: SD 3813.

5973 Directed Research
(3-0) 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor and the student's Graduate Advisor of Record in which the course is offered.
The directed research course may involve either a laboratory or a theoretical problem. May be repeated for credit, but not more than 6 hours, regardless of discipline, will apply to the Master's degree.

6633 Simulation Techniques
(3-0) 3 hours credit. Prerequisites: CS 1723 and STA 3523, or consent of instructor.

6953 Independent Study
3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor and the student's Graduate Advisor of Record 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.

6961 Comprehensive Examination
1 hour credit. Prerequisite: Approval of the appropriate Committee on Graduate Studies to take the Comprehensive Examination. Independent study course for the purpose of taking the Comprehensive Examination. May be repeated as many times as approved by the Committee on Graduate Studies. Enrollment is required each term in which the Comprehensive Examination is taken if no other courses are being taken that term. The grade report for the course is either CR (satisfactory performance on the Comprehensive Examination) or NC (unsatisfactory performance on the Comprehensive Examination).

6973 Special Problems
3 hours credit. Prerequisite: consent of instructor. An organized course offering the opportunity for 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: Permission of the Graduate Advisor of Record 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.
Master of Arts Degree in Anthropology

COLLEGE OF SOCIAL AND BEHAVIORAL SCIENCES
DIVISION OF BEHAVIORAL AND CULTURAL SCIENCES
MASTER OF ARTS DEGREE IN ANTHROPOLOGY

The Master's program in Anthropology at The University of Texas at San Antonio is designed to offer students the opportunity to study anthropology at the graduate level. Two specializations are available:

a. Ethnohistory. Ethnohistory applies the concepts of cultural anthropology to historical documents. Cultural process through time is examined using historical archives as the principal information source. The program at UTSA supplements a foundation in cultural anthropology and ethnohistory with appropriate studies in archaeology, history, and historiography.

b. Archaeology. UTSA's program in Archaeology places particular emphasis on the Texas Borderlands area, and affords an opportunity to conduct systematic research using the abundant archaeological resources in the San Antonio and South Texas region. The archaeology of Mexico and Central America is also emphasized.

Program Admission Requirements. All applicants for admission as degree-seeking students must submit Graduate Record Examination Aptitude Test scores. Applicants who meet University-wide admission requirements but who do not submit GRE scores at time of application may be granted conditional admission until GRE scores are received. Applicants who do not meet University-wide admission requirements may be admitted conditionally if GRE scores, letters of recommendation, or previous work in the field suggest unrealized academic potential.

Applicants for admission as non-degree-seeking students (Special Graduate Student or Transient Graduate Student) need not submit GRE scores but should have completed at least 12 semester hours in Anthropology (with no more than 6 of the 12 in field school) prior to application. Non-degree-seeking students may be limited in the courses they will be permitted to take. Admission as a non-degree-seeking student does not insure subsequent admission as a degree-seeking student.

In addition, each applicant must provide three letters of recommendation from persons who can evaluate the applicant's academic background, skills, motivation, and potential. These letters should be directed to the Graduate Advisor of Record, Division of Behavioral and Cultural Sciences, and should arrive as soon as possible after submitting the application for admission. Applicants who are able to visit the UTSA campus are encouraged to meet with the Division's Graduate Advisor of Record and members of the Anthropology faculty in conjunction with the application.

Degree Requirements. In addition to the general requirements for graduate study at The University of Texas at San Antonio, the Master of Arts in Anthropology degree requires the following:

Option I. 33 credit hours including 27 credit hours of coursework and the Master's thesis for which 6 hours of credit are granted. At least 18 of these hours must derive from Anthropology courses.

Option II. Master's degree program without a thesis, containing 36 hours of coursework, may be sought by petition to the Anthropology Graduate Studies Committee. Permission to take Option II will normally be granted only on presentation of evidence that the student has previously done scholarly work equivalent to that required in an M.A. thesis.
The Program of Study for either specialization is not rigidly specified, and within each specialization there is some room for individual variation. Student programs are constructed on the basis of consultation between students and faculty advisors within Division guidelines designed to guarantee coherence to the student's achievement in the area selected. Lists of suggested courses are available from faculty advisors and from the Division's Graduate Advisor of Record.

Although there is no program-wide language proficiency requirement, certain specializations and programs of study will require students to demonstrate proficiency in a second language. Students should consult their advisor or the Graduate Advisor of Record regarding this matter.

A comprehensive examination, both written and oral, tailored to the student's program and area of concentration, is scheduled for the final semester before writing the Master's thesis for Option I students, or before enrolling in the last nine semester hours of coursework under the non-thesis option. Satisfactory performance on the comprehensive examination is required prior to enrollment in either ANT 6983 (Master's Thesis) or in the non-thesis option work.

**COURSE DESCRIPTIONS**

**ANTHROPOLOGY**

(ANT)

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.

5233 **Concepts of Ethnohistory**
(3-0) 3 hours credit.
Survey and practicum in methods and objectives of documentary historical research in anthropology.

5243 **Environment and Culture Change**
(3-0) 3 hours credit.
An examination of mechanisms of geologic, atmospheric, and cultural change. Methods of studying long-term interactions and change.

5413 **Seminar In the Prehistory of Texas and Adjacent Areas**
(3-0) 3 hours credit.
Intensive study of prehistoric and early historic aboriginal cultures of Texas and adjacent areas. Focus is on problems of interpretation, current archaeological research of the region, and the impact of Federal legislation on Texas archaeology.

5556 **Field Course In Archaeology**
(2-12) 6 hours credit. Prerequisite: Consent of instructor.
The opportunity for advanced training in field procedures, and their applications to problem-oriented field research. May be repeated for credit.

6113 **Seminar in the Anthropology of Mesoamerica**
(3-0) 3 hours credit.
Attention is centered on a limited number of significant problems in Mesoamerican anthropology to which materials from archaeology, ethnology and ethnohistory contribute. Examples of such problems are: demography and the rise of Mayan civilization, roots of Mesoamerican peasant culture, and distribution analysis of cultural and language variance. May be repeated for credit when topics vary.
6133 Seminar in Medical Anthropology
(3-0) 3 hours credit. Prerequisite: ANT 3173 recommended.
Attention is centered on a limited number of significant problems in medical anthropology to which materials from ethnohistory, archaeology, ethnology, paleopathology, and cultural ecology contribute. Topics may include interaction of genetic and cultural influences and health consequences of technological change. May be repeated for credit when topics vary.

6313 Ethnohistory Research Practicum
(3-0) 3 hours credit. Prerequisite: ANT 5233 or permission of the instructor.
An organized seminar in which students analyze a corpus of documents pertaining to a single topic or group. Course emphasizes the confrontation of methodological problems inherent in the documentary record when used for anthropological purposes.

6353 Field Research Methods in Cultural Anthropology
(3-0) 3 hours credit.
The study and practice of field research methods in cultural anthropology emphasizing participant-observation and use of informants.

6443 Supervised Field Research
(0-12) 3 hours credit. Prerequisite: Consent of instructor.
The course is designed to offer the opportunity for intensive training and requires the student to carry out independent research and analysis of field data. May be repeated for credit.

6933 Internship in Anthropology
3 hours credit.
A supervised experience, relevant to the student's program of study, within selected community organizations. May not be taken concurrently with Independent Study.

6951-3 Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor and the student's Graduate Advisor of Record. 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.

6961 Comprehensive Examination
1 hour credit. Prerequisite: Approval of the appropriate Committee on Graduate Studies to take the Comprehensive Examination. Independent study course for the purpose of taking the Comprehensive Examination. May be repeated as many times as approved by the Committee on Graduate Studies. Enrollment is required each term in which the Comprehensive Examination is taken if no other courses are being taken that term. The grade report for the course is either CR (satisfactory performance on the Comprehensive Examination) or NC (unsatisfactory performance on the Comprehensive Examination).

6971-3 Special Problems
1 to 3 hours credit. Prerequisite: Consent of instructor.
An organized course offering the opportunity for 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: Permission of the Graduate Advisor of Record 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.

MASTER OF ARTS DEGREE IN HISTORY

The Master of Arts degree program in History offers students the opportunity to study history and the historian's craft. The program is designed to serve the needs of the
individual students as well as the educational and intellectual interests of San Antonio and south Texas.

The program has two objectives: first, to give students an understanding of the discipline, and second, to involve them in the process of historical research and writing. Students will become acquainted with the work of historians and will approach their study of local and national societies from the viewpoint of a professional historian.

The History program offers both a thesis and a non-thesis option. Students who anticipate graduate work beyond the Master’s level are advised to select the thesis option.

**Program Admission Requirements.** All applicants for admission as Graduate Degree-Seeking Students must submit Graduate Record Examination Aptitude Test scores. Applicants who meet University-wide admission requirements but who do not submit GRE scores at time of application may be granted conditional admission until GRE scores are received.

Applicants who do not meet University-wide admission requirements may be admitted conditionally if GRE scores, letters of recommendation, or previous work in the field suggest unrealized academic potential.

Applicants for admission as non-degree-seeking students (Special Graduate Student or Transient Graduate Student) need not submit GRE scores but should have completed at least 12 semester hours in history or related field prior to application. Non-degree-seeking students may be limited in the courses they will be permitted to take. Admission as a non-degree-seeking student does not insure subsequent admission as a degree-seeking student.

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

All candidates for the degree must complete:

A. 6 semester hours chosen from general field readings courses:
   - HIS 5033 Readings in American History I
   - HIS 5043 Readings in American History II
   - HIS 5083 Readings in Modern European History

B. 15 semester hours of elective courses, chosen in consultation with the student’s advisor. Up to 6 of the elective hours may be taken in disciplines outside history with the prior approval of the student’s Graduate Advisor of Record. Such outside courses must clearly support the student’s program of study.

C. 6 semester hours consisting of the sequence:
   - HIS 6813 Proseminar in History
   - HIS 6903 Research Seminar in History
   This sequence will vary in subject. A student should first take HIS 6813 and then HIS 6903 *in the same subject*.

D. 6 semester hours to be taken as follows:
   - *Option I* (with thesis)
     The satisfactory completion of HIS 6983 (Master’s Thesis) (6 hours) in accordance with university regulations as stated under "Options for Master’s Degrees."
   - *Option II* (without thesis)
     Completion of any additional six hours of History graduate coursework. An additional proseminar-research seminar sequence is recommended.

In addition to the semester-hour requirements set forth above, all candidates for the degree are required to pass a written comprehensive examination. The comprehensive
examination is taken in or after the semester in which the student completes the requirements in Section A, B, and C above; it must be passed before the student can enroll in HIS 6983 (Master's Thesis) under Option I or receive his or her degree under Option II.

A description of the procedures and requirements of the comprehensive examination is available from the student's academic advisor or the Graduate Advisor of Record.

Competence in either a foreign language or a technical research methodology is required of all students. The requirement must be fulfilled before a student in Option I enrolls in HIS 6983 (Master's Thesis) and by the time a student in Option II applies for graduation. Normally, the language competence option will be selected by students whose areas of research concentration are deemed by the Graduate Studies Committee to require knowledge of a foreign language. Language competence is demonstrated by completing at least four semesters in the same language at the university level or four years in the same language at the high school level (with a grade of C or higher) or by achieving the equivalent CLEP test score in a language. Technical research competence is demonstrated by passing HIS 6613 (Technical Methods).

COURSE DESCRIPTIONS

HISTORY (HIS)

5033 Readings in American History I
(3-0) 3 hours credit.
Overview of important historiographical issues in American history to 1877, intended to acquaint the student with current directions in research and interpretation. (Credit may not be earned for both 5073 and 5033.)

5043 Readings in American History II
(3-0) 3 hours credit.
Overview of important historiographical issues in American history from 1877 to the present. Will expose students to current directions in historical research and interpretation.

5083 Readings in Modern European History
(3-0) 3 hours credit.
Overview of important historiographical issues in European history since the seventeenth century, intended to acquaint the student with current directions in research and interpretation.

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.

5193 The Emergence of Modern America, 1929 to the Present
(3-0) 3 hours credit.
Analysis of recent American history with emphasis upon the rise of the United States 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 American Political History
(3-0) 3 hours credit.
Examines the role of government and the political process in the United States. Topics may include the origins of the political system, the evolution of political parties, and the expansion of the public sector.

5263 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.

5303 Twentieth-Century Texas
(3-0) 3 hours credit.
An examination of Texas society, culture, and politics in modern times. Topics may include the period of reform in the 1890s, the boom in oil, the growth of cities, the politics of the Progressive Era, the developments of the Twenties, the Depression and New Deal, World War II, the era of Lyndon Baines Johnson, and the expansion of industry in the state and the Sun Belt.

5423 Colonial Mexico
(3-0) 3 hours credit.
A detailed examination of the Spanish conquest and colonization of Mexico from 1521 to Independence. Special attention will be paid to the transformation of Indian society under Spanish rule, the development of the colonial economy, and the formation of an interrelated colonial elite. (Credit cannot be earned for both 5403 and 5423.)

5433 Mexico Since Independence
(3-0) 3 hours credit.
Examines the history of Mexico following Independence from Spain in 1821. Consideration will be given to the disintegration of the colonial system, the nineteenth century reforms, the Porfiriato, the Mexican Revolution, and their effects on contemporary Mexico. Students may have the opportunity to work in Mexico. (Credit may not be earned for both 5413 and 5433.)

5463 Latin American Society
(3-0) 3 hours credit.
An analysis of the formation of Latin American Society in the colonial and national periods. The course will focus on institutions such as the Church, the family, and the military, as well as the role of Indians, Blacks, women, and ethnic groups. Readings will be drawn from different regions and time periods to provide a comparative perspective.

5723 The Origins of the World Wars
(3-0) 3 hours credit.
An examination of the complex processes leading up to the outbreak of world war in 1914 and 1939. Focuses both on international politics and the internal politics of major warring nations.

6113 Law and Society In America
(3-0) 3 hours credit.
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 seventeenth century slavery to the equal rights revolution of the twentieth century.

6143 American Social History
(3-0) 3 hours credit.
Review of important topics in American social history. Topics may include: wealth and power, social stratification, migration, religion and ethnicity, family, gender roles, professionalization, politics as power, urban development, education, and social conflict.

6163 Women in the U.S.
(3-0) 3 hours credit.
Analyzes the experiences of women in the United States from the colonial period to the present. Topics may include economic roles, legal issues, religion, culture, feminist movements, and family life.

6173 Hispanics in the U.S.
(3-0) 3 hours credit.
Examines the Mexican American, Cuban American, and Puerto Rican American experience in the United States, treating the historical relationship between this nation and the countries of origin and the interaction between these groups and mainstream society.

6183 Community in America
(3-0) 3 hours credit.
Examines the evolution of communities both as distinct geographical places and as social groupings within those places. Case studies from various periods in American history will be
used to illustrate the processes of social change. (Credit may not be earned for both 6153 and 6183.)

6203 **War and Society: Europe**  
(3-0) 3 hours credit.  
An examination of the impact of war on the development of European society since the Middle Ages. The emphasis will be on the ways nationalism, the rise of the military as a profession, changes in strategic planning, and actual combat affected European society.

6413 **Topics in U.S. History**  
(3-0) 3 hours credit.  
Examines topics of current interest to historians of the United States. May be repeated for credit when topics vary.

6423 **Topics in European History**  
(3-0) 3 hours credit.  
Examines topics of current interest to historians of Europe. May be repeated for credit when topics vary.

6433 **Topics in Latin American History**  
(3-0) 3 hours credit.  
Examines topics of current interest to historians of Latin America. May be repeated for credit when topics vary.

6613 **Technical Methods**  
(3-0) 3 hours credit.  
Introduction of quantitative analysis of historical sources. Students will have the opportunity to gain experience in research design, data collection, data manipulation, and statistical analysis with the aid of mainframe and microcomputers. Prior experience with computers or course work in statistics is desirable but not required.

6813 **Proseminar In History**  
(3-0) 3 hours credit.  
A detailed investigation of a major historical subject, with particular attention to current research and major interpretations. Intended as preparation for HIS 6903. May be repeated for credit when topics vary.

6903 **Research Seminar In History**  
(3-0) 3 hours credit. Prerequisite: HIS 6813 in the specific subject of the seminar or consent of instructor.  
An examination of research materials pertinent to topics in history explored in HIS 6813, of methodologies developed to interpret these materials, and of theoretical issues guiding inquiry. Preparation of a primary research paper required. 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 and the student’s Graduate Advisor of Record.  
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.

6961 **Comprehensive Examination**  
1 hour credit. Prerequisite: Approval of the appropriate Committee on Graduate Studies to take the Comprehensive Examination.  
Independent study course for the purpose of taking the Comprehensive Examination. May be repeated as many times as approved by the Committee on Graduate Studies. Enrollment is required each term in which the Comprehensive Examination is taken if no other courses are being taken that term. The grade report for the course is either CR (satisfactory performance on the Comprehensive Examination) or NC (unsatisfactory performance on the Comprehensive Examination).

6983 **Master’s Thesis**  
3 hours credit. Prerequisites: Permission of the Graduate Advisor of Record and thesis director.  
The 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 BICULTURAL-BILINGUAL STUDIES

MASTER OF ARTS DEGREE IN BICULTURAL-BILINGUAL STUDIES

The Master of Arts Degree in Bicultural-Bilingual Studies is designed to respond to a variety of societal needs through advanced multidisciplinary study in the fields of language, culture and related disciplines. It has concentrations in:

- Bicultural-Bilingual Education
- Bicultural Studies
- English as a Second Language

Program Admission Requirements. The Division of Bicultural-Bilingual Studies offers an interdisciplinary program which encourages applicants from a wide range of disciplines. All applicants are required to submit scores from the Graduate Record Examination Aptitude Test (GRE). These scores will be used as one element in the evaluation of applicants.

Degree Requirements. All candidates for the Master of Arts Degree in Bicultural-Bilingual Studies are required to complete successfully a thirty-six (36) semester hour program. Upon completion of coursework, the candidate will be required to pass a written and oral comprehensive examination. In addition, as a requirement for graduation, candidates for this degree must show proficiency in a second language or give evidence of second language learning experiences acceptable to the Division's Graduate Studies Committee. Candidates are advised to consult with the Division's Graduate Advisor of Record for testing procedures on second language proficiency or acceptable evidence of second language learning experiences.

Concentration In Bicultural-Bilingual Education. This concentration is offered for those who are interested in advanced study in the design and implementation of bicultural-bilingual education programs. This interdisciplinary course of study presents systematic instruction in bilingualism, cultural dynamics, and applied linguistics. It also includes an examination of theory and research related to effective bilingual education. The M.A. degree is offered under two options: thesis and non-thesis.

Degree requirements.

A. Required coursework. 30 hours of coursework from six major areas as follows:

- **Socio-Cultural Studies** (six required hours)
  - BBL 5003 Foundations for Bicultural Studies
  - BBL 5013 Multicultural Groups in the United States
  - BBL 5023 Cultural Adaptation in Bilingual Societies
  - BBL 5073 Psychological Considerations in Bicultural-Bilingual Environments
  - BBL 5123 Sociolinguistic Approaches to Education in Multicultural Societies
  - BBL 5133 Hispanic Biculturalism in the United States

- **Bilingual Education Theory** (three required hours)
  - BBL 5113 Theoretical Foundations of Bicultural-Bilingual Education
  - 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 Acquisition

- **Teaching Methodology: Content and Language** (six required hours)
  - BBL 5033 Teaching Content in Bilingual Programs
  - BBL 5063 Reading in Bicultural-Bilingual Programs
  - BBL 5143 Communication in Bilingual Classrooms
  - BBL 5193 Children's Literature in Multicultural Societies

Information on the GRE and applications for the test may be obtained from the Testing Center at UTSA or from the Educational Testing Service, Princeton, New Jersey 08540. The institution code for The University of Texas at San Antonio is 6919-5 for the GRE.
Research and Evaluation (six required hours)
BBL 5053 Tests and Measurements in Bilingual and Second Language Studies
BBL 6053 Testing Members of Bicultural-Bilingual Societies
BBL 6063 Research Methodology in Bilingual and Second Language Studies
BBL 6073 Ethnographic Research Methods in Bicultural-Bilingual Studies

English as a Second Language (six required hours)
ESL 5053 Second Language Teaching Methods
ESL 5063 Second Language Teaching and Content-Area Instruction
ESL 6063 Writing in Second Language Programs
ESL 6073 Language Teaching Materials

B. Option I. Master's Thesis. Six hours of graduate credit.
OR
Option II. Electives. Six hours of graduate elective coursework in Bicultural-Bilingual Studies, English as a Second Language, or in approved related areas.

Concentration In Bicultural Studies. This program of study offers the student the opportunity to pursue an interdisciplinary approach to the study of socio-cultural dynamics in multicultural societies, with emphasis on the study of biculturalism in the United States. Courses are designed for professional and research interest in education, government, social welfare, other social service areas, and community college instruction. Courses may be complementary to academic programs such as in the humanities, social sciences, and business. The M.A. degree is offered under two options: thesis and non-thesis.

Degree requirements.
A. Required coursework. 30 hours of coursework from four major areas as follows:

Socio-Cultural Foundations (twelve required hours)
BBL 5003 Foundations for Bicultural Studies
BBL 5013 Multicultural Groups in the United States
BBL 5023 Cultural Adaptation in Bilingual Societies
BBL 5073 Psychological Considerations in Bicultural-Bilingual Environments
BBL 5123 Sociolinguistic Approaches to Education in Multicultural Societies
BBL 5133 Hispanic Biculturalism in the United States

Historical Foundations (six required hours)
HIS 5263 The Spanish Borderlands, 1521-1821
HIS 5423 Colonial Mexico
HIS 5433 Mexico Since Independence
HIS 5463 Latin American Society
HIS 6173 Hispanics in the U.S.

Language and Expressive Culture (six required hours)
AHC 5813 Topics in Art History
AHC 6813 Practicum in Art History and Criticism
BBL 6033 Topics in Bicultural Studies
ESL 5003 Linguistics for Second Language and Bilingual Specialists
SPN 5003 Hispanic Cultural Periods and Traditions I
SPN 5013 Hispanic Cultural Periods and Traditions II
SPN 5483 Studies in Hispanic Culture
SPN 5803 Mexican-American Literature

Research Foundations (six required hours)
BBL 6073 Ethnographic Research Methods in Bicultural-Bilingual Studies
Concentration in English as a Second Language. This program of study is designed for those who are concerned with teaching English as a second language to children or adults, in schools and programs in the United States or in international settings. This interdisciplinary program presents systematic instruction in applied linguistics, second language acquisition theory, and ESL program implementation. The M.A. degree is offered under two options: thesis and non-thesis.

Degree requirements.

A. Required coursework. 30 hours of coursework from four major areas as follows:

Theory of Language and Language Acquisition (nine to twelve required hours)
- BBL 5123 Sociolinguistic Approaches to Education in Multicultural Societies
- ESL 5003 Linguistics for Second Language and Bilingual Specialists
- ESL 5013 Psycholinguistic Foundations of Second Language Acquisition
- ESL 5023 Language Analysis for Second Language Specialists
- ESL 6013 Research in Second Language Acquisition

Methods and Materials (nine to twelve required hours)
- ESL 5033 Reading in Second Language Programs
- ESL 5053 Second Language Teaching Methods
- ESL 5063 Second Language Teaching and Content Area-Instruction
- ESL 6023 History of Second Language Teaching
- ESL 6063 Writing in Second Language Programs
- ESL 6073 Language Teaching Materials

Language Assessment, Research and Evaluation (three to six required hours)
- BBL 5053 Tests and Measurements in Bilingual and Second Language Studies
- BBL 6053 Testing Members of Bicultural-Bilingual Societies
- BBL 6063 Research Methodology in Bilingual and Second Language Studies
- BBL 6073 Ethnographic Research Methods in Bicultural-Bilingual Studies

Socio-Cultural Studies (three to six required hours)
- BBL 5003 Foundations for Bicultural Studies
- BBL 5013 Multicultural Groups in the United States
- BBL 5023 Cultural Adaptation in Bilingual Societies
- BBL 5073 Psychological Considerations in Bicultural-Bilingual Environments
- BBL 5133 Hispanic Biculturalism in the United States

B. Option I. Master's Thesis. Six hours of graduate credit.

OR

Option II. Electives. Six hours of graduate elective coursework in Bicultural-Bilingual Studies, English as a Second Language, or in approved related areas.
5003 Foundations for Bicultural Studies  
(3-0) 3 hours credit.  
A study of basic concepts and principles for an interdisciplinary approach to biculturalism and multiculturalism.

5013 Multicultural Groups In the United States  
(3-0) 3 hours credit.  
A study of sociocultural diversity, culture maintenance and change, culture revitalization, and other aspects of ethnicity in the past, present, and future of the United States.

5023 Cultural Adaptation In Bilingual Societies  
(3-0) 3 hours credit.  
A study of the dynamic relationships between culture and language, with emphasis on various adaptations to the American value system.

5033 Teaching Content In Bilingual Programs  
(3-0) 3 hours credit.  
A study of techniques, methods, and approaches applicable to the teaching of subject area content in bicultural-bilingual programs, with attention to the foundations and the methodology relative to such programs. Offered in Spanish and English.

5053 Tests and Measurements In Bilingual and Second Language Studies  
(3-0) 3 hours credit.  
A study of language assessment instruments; emphasis on their background, application, and interpretation for assessing language proficiency, in accord with instructional objectives.

5063 Reading In Bicultural-Bilingual Programs  
(3-0) 3 hours credit.  
A study of the methods and techniques for teaching reading in two languages, with emphasis on the cultural concepts, patterns and regional contributions found in selected reading materials. Offered in Spanish and English.

5073 Psychological Considerations In Bicultural-Bilingual Environments  
(3-0) 3 hours credit.  
A study of the social and cognitive psychological factors affecting populations in bicultural-bilingual environments.

5113 Theoretical Foundations of Bicultural-Bilingual Education  
(3-0) 3 hours credit.  
A study and analysis of bicultural-bilingual program alternatives; research perspectives on effective implementation and adaptation to community needs.

5123 Sociolinguistic Approaches to Education in Multicultural Societies  
(3-0) 3 hours credit.  
A study of the demographic, ethnographic, and sociocultural elements of bilingual 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 Hispanic Biculturalism In the United States  
(3-0) 3 hours credit.  
A study of twentieth century Mexican-American, Central American, Cuban, and Puerto Rican ethnic self-determination patterns in the context of mainstream cultural diversity and change.

5143 Communication in Bilingual Classrooms  
(3-0) 3 hours credit.  
Emphasis on communicative skills and strategies for achieving full interaction among students in bilingual classrooms, and on specialized teaching-related vocabularies needed to conduct instruction in two languages.

5163 Philosophy of Bilingual Education  
(3-0) 3 hours credit.  
An historical survey and philosophical study of bicultural-bilingual education.
5193  **Children's Literature In Multicultural Societies**  
(3-0) 3 hours credit.  
A study of children's literature through a comparative, pluri-cultural analysis of the contents in books for children.

6033  **Topics In Bicultural Studies**  
(3-0) 3 hours credit.  
Suggested topics include: contemporary chicano arts; chicana women; Mexican-American folklore; teacher roles in multicultural schools; cultural factors in human resources development. May be repeated for credit when topics vary.

6053  **Testing Members of Bicultural-Bilingual Societies**  
(3-0) 3 hours credit.  
Issues of testing with non-dominant ethnic populations, research projects in appropriate assessment of language and cognitive abilities for minority group members.

6063  **Research Methodology In Bilingual and Second Language Studies**  
(3-0) 3 hours credit.  
Research design for the study of psychological and linguistic variables in bilingual and second language populations; emphasis on designing a research project.

6073  **Ethnographic Research Methods In Bicultural-Bilingual Studies**  
(3-0) 3 hours credit.  
Multidisciplinary techniques to survey and analyze bilingual-bicultural dynamics in institutional and community settings, with emphasis on sociolinguistics, unobtrusive research methods, and research ethics.

6951-3  **Independent Study**  
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor and the student's Graduate Advisor of Record. 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.

6961  **Comprehensive Examination**  
1 hour credit. Prerequisite: Approval of the appropriate Committee on Graduate Studies to take the Comprehensive Examination. Independent study course for the purpose of taking the Comprehensive Examination. May be repeated as many times as approved by the Committee on Graduate Studies. Enrollment is required each term in which the Comprehensive Examination is taken if no other courses are being taken that term. The grade report for the course is either CR (satisfactory performance on the Comprehensive Examination) or NC (unsatisfactory performance on the Comprehensive Examination).

6973  **Special Problems**  
3 hours credit. Prerequisite: Consent of instructor. An organized course offering the opportunity for 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: Permission of the Graduate Advisor of Record 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
ENGLISH AS A SECOND LANGUAGE (ESL)

5003 Linguistics for Second Language and Bilingual Specialists
(3-0) 3 hours credit.
Concepts in linguistics, including descriptive and contrastive linguistics, with focus on implications for second language teaching.

5013 Psycholinguistic Foundations of Second Language Acquisition
(3-0) 3 hours credit.
Study of principles, theories and issues in second language acquisition and bilingualism with implications for language teaching.

5023 Language Analysis for Second Language Specialists
(3-0) 3 hours credit.
Study of English grammar from descriptive and discourse perspectives with consideration of cross-linguistic contrasts and of applications for teaching English as a second language.

5033 Reading in Second Language Programs
(3-0) 3 hours credit.
A course on the relationship of reading acquisition to language development including oral language and writing development. The preparation and adaptation of reading materials for various levels of proficiency. Critical evaluation of existing second language reading materials and progressive second language readers available in controlled vocabularies.

5053 Second Language Teaching Methods
(3-0) 3 hours credit.
A critical study of various methodologies in second language teaching.

5063 Second Language Teaching and Content-Area Instruction
(3-0) 3 hours credit.
Theoretical and practical approaches to integration of language teaching with subject matter areas. Emphasis on oral language and literacy for academic purposes.

6013 Research in Second Language Acquisition
(3-0) 3 hours credit.
Investigation of second language acquisition from multiple perspectives through databased studies.

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 justification for past methods and techniques.

6033 Topics in Second Language Teaching
(3-0) 3 hours credit.
Suggested topics include: computer-assisted language learning, English for specific purposes, contrastive rhetoric, innovative methodologies, syllabus design. May be repeated for credit when topic varies.

6063 Writing in Second Language Programs
(3-0) 3 hours credit.
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. Emphasizes relationship of writing development to proficiency in oral language development and reading.

6073 Language Teaching Materials
(3-0) 3 hours credit.
Offers the student the opportunity to develop skills in the revision, adaptation, and utilization of published language teaching materials. Emphasizes materials for oral language and literacy development.
6943 Internship In English as a Second Language
(3-0) 3 hours credit.
Supervised experience in teaching English as a Second Language. Prerequisite: Eighteen (18) hours of coursework in ESL and consent of instructor. May be repeated for credit to a maximum of six (6) hours.

6951-3 Independent Study
1 to 3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor and the student's Graduate Advisor of Record. 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.

6973 Special Problems
3 hours credit. Prerequisite: Consent of instructor.
An organized course offering the opportunity for 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: Permission of the Graduate Advisor of Record 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

The Master of Arts Degree in Education offers the student the opportunity for advanced study and professional development programs in seven fields of concentration:

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

Education concentrations provide specialized degree plans in one or more areas of program emphasis so that students may choose a plan that is suitable to their particular needs and objectives. Degree plans are designed primarily to offer the opportunity to gain advanced levels of knowledge and professional competency for persons engaged in or concerned about educational activity in schools, colleges, and other public or private institutions and agencies. Credit toward graduate-level certificates and certificate endorsements may be earned in conjunction with work toward the Master's degree in most programs. Programs with a thesis option are available which emphasize the development of research competencies critical to continued graduate-level study.

The Concentration In Cultural Foundations of Education
This concentration offers the opportunity for advanced general study of the field of Education, examining the philosophical, sociological and psychological issues that influence institutions and processes of education as well as the disciplines of knowledge and the modes of inquiry that nourish and sustain them.

The Concentration In Curriculum and Instruction
The program emphases in Curriculum and Instruction are focused on the theoretical and practical aspects of curriculum planning, development, implementation, and evaluation in all subject fields and at all educational levels. The concepts of curricular innovation and teaching excellence are stressed in conjunction with expanded knowledge of content fields and applied research. Students who desire to specialize in a teaching field may do so by taking courses in that field to support the concentration in Curriculum and Instruction. Within the concentration in C&I a student may also specialize in the teaching of reading or in the supervision of instruction.

The Concentration in Early Childhood and Elementary Education
The concentration in Early Childhood and Elementary Education focuses on the broad spectrum of development and learning in children from infancy through preadolescence. Emphasis is on translating related research and theory into curriculum development and instruction, with the intent of helping children to realize the most complete development possible for them in a multicultural society. This concentration is designed primarily for experienced classroom teachers at the early childhood and elementary levels, but it is also suitable for personnel in human services and other allied fields.

The Concentration In Educational Leadership
Students seeking the opportunity to apply for management careers in public or private schools and school systems should follow programs in this concentration. The unique problems, processes, and expertise associated with effective personnel management and curriculum leadership are explored, developed, and tested in practical field-based settings with an emphasis on applied research and human relations methodologies.
The Concentration in Educational Psychology/Counseling and Guidance
This concentration is designed for those students interested in careers in counseling and guidance at the elementary, secondary, or higher education levels and for those students interested in related mental health services. Coursework provides students the opportunity to apply for professional counselor certification (elementary and secondary) and/or for professional counselor licensure.

The Concentration in Educational Psychology/Special Education
This concentration is designed for those students seeking an opportunity for additional or advanced preparation for teaching handicapped children and youth. The student may elect one or more of a variety of specific emphases possible. The program is intended to offer students the opportunity for theoretical understanding and clinical opportunities to develop and apply skills in working with handicapped learners.

The Concentration in Adult and Higher Education
This concentration offers the opportunity for advanced study for careers in educational institutions for adult learners. Program emphases are offered for persons preparing to teach in higher education and adult continuing education programs, and for those whose interests are directed toward administrative/managerial roles in institutions or agencies that serve adult education functions. The program is designed for those for whom the Master's degree is terminal as well as for those pursuing the Master's degree as an intermediate program leading to further graduate study.

Program Admission Requirements. Individuals without adequate preparation in Education may be required to complete preparatory courses as a condition of admission. For unconditional admission, scores on the Graduate Record Examination Aptitude Test (GRE) must be on file in the Office of Admissions and Registrar.

Degree Requirements. All degrees in Education have four required components: a core of common courses, a program emphasis, support work, and a comprehensive examination.

A) A core of courses common to all concentrations
1. EDU 5003, Research Methods in Education
2. EDU 5103, Contemporary Educational Philosophy
3. EDP 5003, Psychological Basis for Learning
4. C&I 5003, Theory and Dynamics of Curriculum and Instruction.

B) A program emphasis
The program emphasis must consist of at least twelve (12) hours in one of the following concentrations. (Courses outside the specific concentration may be used to meet this requirement with advance approval of the student's supervisory committee and the Graduate Advisor of Record.)
1. Cultural Foundations of Education
2. Curriculum and Instruction (Program emphases: Master Teacher, Curriculum Specialist, Instructional Media Specialist, Curriculum Evaluation Specialist, Reading Specialist, Instructional Supervisor)
3. Early Childhood and Elementary Education
4. Educational Leadership
5. Educational Psychology/Counseling and Guidance
6. Educational Psychology/Special Education (Program emphases: Generic Special Education, Severely and Profoundly Handicapped, and Severely Emotionally Disturbed and Autistic)
7. Adult and Higher Education (Program emphases: College and University Teaching, College and University Administration, Adult and Continuing Education)

C) Support Work
Each student is required to select additional courses, with the consent and advice of the Program Advisor and with the approval of the Graduate Advisor of Record, to complete degree requirements of 33 hours (with thesis) or 36 hours (without thesis). Nine hours of courses must be selected to support the concentration. Three additional hours must be taken with the approval of the Graduate Advisor of Record.

Students in the Master Teacher program, in Supervision programs, and in Higher Education: College Teaching programs will take support courses in their teaching fields. Students in teacher certification programs may take their support work courses in areas that meet certification requirements. It is recommended that thesis students take EDU 5053 as part of the support work in the programs, but substitute courses are allowable if recommended by the student's supervisory committee.

D) Comprehensive Examination

The student’s supervisory committee is responsible for administering this examination.

Summary of Degree Options

Option I, with thesis

Core
EDU 5003
EDU 5103
EDP 5003
C&I 5003
12 hours

Concentration
Courses required for a program emphasis in a single concentration
12 hours

Support
EDU 5053 or approved substitution
EDU 6983 (six hours)
9 hours
Total: 33 hours

Option II, without thesis

Core
EDU 5003
EDU 5103
EDP 5003
C&I 5003
12 hours

Concentration
Courses required for a program emphasis in a single concentration
12 hours

Support
9 hours of support courses
3 hours of approved electives
12 hours
Total: 36 hours

DOCTOR OF PHILOSOPHY DEGREE IN EDUCATIONAL LEADERSHIP

See Chapter VIII on Doctoral Degree Regulations and page 210 for requirements for the cooperative Doctor of Philosophy degree program between The University of Texas at San Antonio and The University of Texas at Austin.

COURSE DESCRIPTIONS

ADULT AND HIGHER EDUCATION (AHE)

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.

5313 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. Credit cannot be earned for both AHE 5313 and EDL 5313.

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 Instructional Procedures in Continuing Education
(3-0) 3 hours credit.
Examination of instructional procedures appropriate in adult basic education, GED, community service and recreation courses, professional continuing education courses, initial training courses in corporate settings, and other non-credit offerings.

5623 Adult and Continuing Education Management Systems
(3-0) 3 hours credit.
Organization for adult and continuing education within a college or university and its relationship to the entire institution. Staffing, training, directing and controlling the continuing education effort. Planning, programming, and budgeting. Marketing and public relations. Methods of determining the market. Evaluation of administrative and academic performance. Credit cannot be earned for both AHE 5623 and EDL 5623.

5803 Adult Literacy
(3-0) 3 hours credit.
Examination of the acquisition and development of reading and writing in adult populations. Reviews research and issues relevant to the teaching of reading and writing to adults.

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.

6063 Research in Adult and Higher Education
(3-0) 3 hours credit. Prerequisite: EDU 5003.
Consideration of the major research problem areas in adult and higher education, identification of problems in need of research, examination of research literature in selected areas, study of research procedures unique to or especially useful in adult and higher education.

6073 Research Colloquium
(3-0) 3 hours credit. Prerequisite: EDU 5003 and AHE 6063.
Guided discussion of research in planning stages, research in process, and research recently completed by participants, opportunity for the organization of research teams or for planning of cooperative research, opportunity for students engaged in research to obtain assistance in planning in data collection, in data analysis, and in preparation of reports.

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.

6953 Independent Study
3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor and the student’s Graduate Advisor of Record. 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.

6973 Special Problems
3 hours credit. Prerequisite: Consent of instructor. An organized course offering the opportunity for 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
CURRICULUM AND INSTRUCTION
(C&I)

5003 Theory and Dynamics of Curriculum and Instruction
(3-0) 3 hours credit.
An examination of theoretical structures underlying curriculum considerations and the implications of these for the work of responsible curriculum decision-makers at all levels, including administrators, instructional supervisors, and classroom teachers.

5103 Individualizing Instruction
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An in-depth study of the tasks and problems associated with individualized instruction. Students will be offered the opportunity to 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.

5313 Instructional Materials Production I: Graphics
(3-0) 3 hours credit. Prerequisite: C&I 5003 or consent of instructor.
The opportunity for 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 offer students the opportunity for preparation 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.

5503 Curricula for Pre-school and Primary Children
(3-0) 3 hours credit.
Opportunity is provided for a systematic analysis of curricula for pre-school and primary grade children, including a critical study of related objectives, organizational schemes, content teaching strategies, and materials.
5513 Materials, Methods, and Techniques In Teaching Early Childhood Education  
(3-0) 3 hours credit.  
A study of the methodologies and techniques effective in teaching preschool and elementary school children. Construction and use of materials for teaching at the level of student ability.

5523 Curriculum Planning for Early Childhood and Elementary Education  
(3-0) 3 hours credit. Prerequisite: C&I 5003 or consent of instructor.  
An analysis of the basis for curriculum planning in early childhood and elementary content areas; consideration of developmental levels, domains of learning, and taxonomies of objectives with special attention to the role of the teacher and the student, the uses of materials, the classroom environment, and special student populations.

5533 Curriculum for Handicapped Children and Youth  
(3-0) 3 hours credit. Prerequisites: EDP 5403 or consent of instructor.  
Opportunity will be provided for analysis of curriculum planning and sequencing and also for students to plan instructional materials appropriate for the implementation of mandated individual educational plans for handicapped children and youth.

5543 Curriculum Planning and Development for Severely/Profoundly Handicapped Children and Youth  
(3-0) 3 hours credit.  
The study, development and implementations of curriculum appropriate to educating severely and profoundly handicapped children and youth. Includes analysis of commercially available curricula and the development of curricula to meet the educational needs of the severely handicapped.

5603 Curricula for Elementary School Children  
(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 grades 1-8.

5703 Secondary School Curricula  
(3-0) 3 hours credit.  
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 Introduction to Reading  
(3-0) 3 hours credit.  
Introduction to the reading process, overview of the development of reading, examination of instructional issues associated with the teaching of reading. Required for students who have completed less than six hours of reading courses at the undergraduate level.

5743 Reading In Secondary School  
(3-0) 3 hours credit.  
Principles and techniques for teaching higher level reading and comprehensive skills to improve proficiency in learning various academic subjects in middle and secondary schools. Strategies for meeting needs of the wide range of ability levels found in secondary schools.

5753 Literature for Children and Adolescents  
(3-0) 3 hours credit.  
Examines the selection and uses of children's literature and adolescent literature in the classroom. Emphasizes ways to integrate literature into the elementary and secondary school curriculum.

5763 Diagnosis and Remediation of Reading and Learning Problems  
(3-0) 3 hours credit. Prerequisite: Consent of instructor.  
Multidisciplinary approach to diagnosis and remediation of reading disabilities with attention to neurological, physical, perceptual, mental, emotional, cognitive, and linguistic aspects which may impede learning.

5773 Clinical Practicum In Reading  
(3-0) 3 hours credit.  
Prerequisite or concurrent enrollment: C&I 5763 or consent of instructor.  
Application of diagnostic and remedial procedures with individual children; guided field based experiences with weekly seminars designed to enrich the field experience.
5783 Survey of Reading Research
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
A review of past and current literature and research concerning the reading process, curric-
ula, and instructional practice. Opportunity for students to acquire critical analysis skills in
evaluating research.

5793 Seminar in Reading Supervision
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
Organization of developmental and remedial reading and writing programs. Selection of
appropriate materials. Techniques and procedures for maintaining quality programs, including
staff selection and inservice training. The role of research in improving the teaching of reading
and writing.

5803 Higher Education Curricula
(3-0) 3 hours credit.
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. Prerequisite: Consent of instructor.
An application of curriculum development theory, educational planning theory, learning the-
ory, and human relations theory to instructional supervision; an examination of the role of the
supervisor. Credit cannot be earned for both C&I 6003 and EDL 6003.

6013 Supervision: Teaching-Learning Process
(3-0) 3 hours credit. Prerequisite: C&I 6003 or consent of instructor.
The analysis and application of models of the teaching-learning process to instructional
supervision; the study and application of content, interaction, and climate analysis tech-
niques. Credit cannot be earned for both C&I 6013 and EDL 6013.

6023 Supervision: Tools and Techniques
(3-0) 3 hours credit. Prerequisite: C&I 6003 or consent of instructor.
A study of impact strategies in instructional supervision, and the development of communica-
tion and interpersonal skills needed for working with teachers. Credit cannot be earned for
both C&I 6023 and EDL 6023.

6203 Instructional Procedures for Handicapped Children and Youth
(3-0) 3 hours credit.
Opportunity to study instructional methodologies and procedures effective in educating handi-
capped children and youth within a variety of administrative arrangements.

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 offer students the opportunity to develop skill in instructional
methodology that is specifically related to and derived from the characteristics of the disci-
pline taught.
1. Science
2. Mathematics
3. Social Studies
4. Language Arts
5. Foreign Languages
6. Physical and Health Education
7. Philosophy for Children
May be repeated for credit when disciplines vary.

6403 Instructional Procedures for Severely/Profoundly Handicapped Children and
Youth
(3-0) 3 hours credit.
A study of theories, methodologies and instructional practices for educating severely handi-
capped children and youth (including emotionally disturbed and autistic) in a variety of
delivery arrangements.

6953 Independent Study
3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of
the instructor and the student's Graduate Advisor of Record.
Independent reading, research, discussion, and/or writing under the direction of a faculty
202 / Curriculum and Instruction
Early Childhood and Elementary Education

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.

6973 Special Problems
3 hours credit. Prerequisite: Consent of instructor.
An organized course offering the opportunity for 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.

5133 Language Development In Preschool-Primary Children
(3-0) 3 hours credit.
Study of early acquisition and development of language skills. Emphasis on identifying the sequence of normal expressive and receptive language development in terms of the child's related abilities and learning experiences.

5453 Classroom Behavior Problems In Children
(3-0) 3 hours credit. Prerequisite: EDP 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 curricula considerations affecting or affected by classroom behavior.

5473 Specialized Instruction In Early Childhood and Elementary Education
(3-0) 3 hours credit. Prerequisite: C&I 5503 or consent of instructor.
Identification, description, analysis, and evaluation of examples of specialized instruction as related to needs of learners, characteristics of subject matter and/or demands of an environment.

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.

6163 Biological Basis of Child Development
(3-0) 3 hours credit. Prerequisites: One course in general biology or general psychology or consent of instructor.
Analysis of biological and psychological perspectives on child growth and development. Emphasis on theoretical aspects of biopsychological and social factors influencing cognitive and learning 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; limit 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 Assessment and Evaluation In Early Childhood and Elementary Education
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
Evaluation and research on educational programs, processes, products, instructional objectives, and alternative approaches to attain objectives. Methods and materials for disciplined
inquiry into current significant issues in early childhood and elementary education. The student will systematically examine a major educational issue relevant to his/her specialization.

**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 experimentation related to teaching/learning situations.

**6513 Advanced Approaches to Interdisciplinary Teaching**  
(3-0) 3 hours credit.  
Review of theory and practice in interdisciplinary teaching and learning in elementary education. Emphasis on understanding the conceptual interrelationships of the fields of study in the elementary curriculum.

**6523 Community Resources in Elementary Education**  
(3-0) 3 hours credit.  
Examination of the diversity of community resources for elementary education. Students will systematically examine ways to integrate local and regional resources into the teaching-learning process.

**6643 The Teacher as Researcher**  
(3-0) 3 hours credit. Prerequisite: EDU 5003.  
Application of research concepts and skills to classroom field studies. Participants will conduct directed research on classroom practice in the elementary school.

**6953 Independent Study**  
3 hours credit. Prerequisites: Graduate standing and permission in-writing (form available) of the instructor and the student’s Graduate Advisor of Record.  
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.

**6973 Special Problems**  
3 hours credit. Prerequisite: Consent of instructor.  
An organized course offering the opportunity for 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**

**EDUCATION (EDU)**

**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 may be required.

**5053 Inferential Educational Statistics**  
(3-0) 3 hours credit. Prerequisites: EDU 5003 and STA 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. 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.  
Philosophical analysis of issues in American education. Consideration is given to ethical and epistemological implications of issues with an emphasis on the evaluation of arguments for the adoption of educational policy.
5113 Philosophical and Ethical Dimensions of Counseling  
(3-0) 3 hours credit.  
Examination and analysis of philosophical traditions undergirding contemporary counseling. Emphasis given to analysis of ethical issues impacting upon the counseling profession.

5203 Evolution of Educational Thought  
(3-0) 3 hours credit.  
An examination of the major educational thinkers in Western Civilization and a review of past institutional arrangements for education.

5303 Theory and Dynamics of Intercultural Interaction in Education  
(3-0) 3 hours credit.  
Theoretical perspectives of intercultural education. Examination of the research base and of trends and barriers in research. Selected applications pertinent to successful intercultural interaction in the student's professional role. Recommended for students preparing for careers involving international participation, especially for those in education-based programs.

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 cultures 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.

5703 Micro-Computer Applications for Educational Settings  
(3-0) 3 hours credit. Prerequisite: CS 5003 or consent of instructor.  
A study of the operations and applications of micro-computers in educational settings. Emphasis on the development and testing of these applications in an educational environment.

5803 Juveniles, Schools and the Law  
(3-0) 3 hours credit.  
An examination of the extent and problem of delinquent behavior particularly as it relates to the school. Designed to familiarize school personnel with the interrelated problems of schools and law enforcement agencies with respect to delinquent behavior, this course explores strategies for dealing with these problems.

6603 Seminar In Educational Research  
(3-0) 3 hours credit. Prerequisite: Completion of no less than 30 semester hours of degree program.  
Each student will be expected to: (1) develop plans for a research project related to an educational issue, (2) collect and analyze data to carry out the research, (3) prepare a research report, and (4) participate in research seminars.

6953 Independent Study  
3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor and the student's Graduate Advisor of Record.  
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.

6961 Comprehensive Examination  
1 hour credit. Prerequisite: Approval of the appropriate Committee on Graduate Studies to take the Comprehensive Examination.  
Independent study course for the purpose of taking the Comprehensive Examination. May be repeated as many times as approved by the Committee on Graduate Studies. Enrollment is
required each term in which the Comprehensive Examination is taken if no other courses are being taken that term. The grade report for the course is either CR (satisfactory performance on the Comprehensive Examination) or NC (unsatisfactory performance on the Comprehensive Examination).

6973 Special Problems
3 hours credit. Prerequisite: Consent of instructor.
An organized course offering the opportunity for 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: Permission of the Graduate Advisor of Record 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. Enrollment is required each term in which the thesis is in progress.

COURSE DESCRIPTIONS
EDUCATIONAL LEADERSHIP (EDL)

5003 Introduction to School Administration
(3-0) 3 hours credit. Prerequisite: One year of teaching experience or consent of instructor.
Introduction to the roles, tasks, and problems of positions in educational administration and their relationship to local, state, and federal government agencies.

5103 General Finance and Taxation in Education
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
Survey of current designs in educational finance of public school districts; review of general concerns, and practices of the appropriate local, state, and federal governmental agencies.

5203 School and Community Relations in Education
(3-0) 3 hours credit.
Introduction to the strategies and design models for informing local business community taxpayers, and clientele about educational activities; study of models for participation and analysis of interaction models.

5303 Human Relations in Educational Administration
(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. Consideration of supportive roles requisite to the supervision of professionals in the educative process.

5313 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. Credit cannot be earned for both EDL 5313 and AHE 5313.

5403 The Principalship: Educational Unit and Site Administration
(3-0) 3 hours credit. Prerequisites: EDL 5003, or consent of instructor.
Analysis of the principal's/comparable position's role and the requisite interaction with various referent groups. Special emphasis on administration of academic programs. Applicable to all levels of common school.

5503 Administration and Function of Special Programs
(3-0) 3 hours credit. Prerequisites: EDL 5003 or consent of instructor.
Identification and analysis of models and designs for the administration, development, supervision and support programming of Special Education, Guidance, Vocational and Technical Education, and other alternative and support functions in education.
5603 Seminar in Applied Research in Educational Leadership
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
Introduction to identification, analysis, and design formulation of applied research problems in educational leadership. Practice in conducting searches, elementary analysis, and deriving appropriate conclusions from applied studies. Students will be required to complete and articulate an approved applied research design in prescribed form.

5623 Adult and Continuing Education Management Systems
(3-0) 3 hours credit.
Organization for adult and continuing education within a college or university and its relationship to the entire institution. Staffing, training, directing and controlling the continuing education effort. Planning, programming and budgeting. Marketing and public relations. Methods of determining the market. Evaluation of administrative and academic performance. Credit cannot be earned for both EDL 5623 and AHE 5623.

5703 Legal Foundations in Education
(3-0) 3 hours credit.
Survey of current legal basis and practices in the policy administration of education and review of significant court decisions pertaining to educational operations. Emphasis on rights and responsibilities of teachers and students and legislation related to multicultural institutional operations.

5803 The Middle School
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
Origins, 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.

6003 Supervision: Theoretical Basis
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
An application of curriculum development theory, educational planning theory, learning theory, and human relations theory to instructional supervision; an examination of the role of the supervisor. Credit cannot be earned for both EDL 6003 and C&I 6003.

6013 Supervision: Teaching-Learning Process
(3-0) 3 hours credit. Prerequisite: EDL 6003 or consent of instructor.
The analysis and application of models of the teaching-learning process to instructional supervision; the study and application of content interaction, and climate analysis techniques. Credit cannot be earned for both EDL 6013 and C&I 6013.

6023 Supervision: Tools and Techniques
(3-0) 3 hours credit. Prerequisite: EDL 6003 or consent of instructor.
A study of impact strategies in instructional supervision, and the development of communication and interpersonal skills needed for working with teachers. Credit cannot be earned for both EDL 6023 and C&I 6023.

6103 Personnel Administration in Education
(3-0) 3 hours credit. Prerequisite: EDL 5003 or consent of instructor.
Survey of roles, responsibilities and functions of personnel officers in education; studies in general personnel policies; review of administration of insurance, salary, retirement, sick leave and other programs operated under personnel administration.

6203 Educational Facilities and Capital Funds Administration
(3-0) 3 hours credit Prerequisite: EDL 5003 or consent of instructor.
Survey of models, policies and procedures for the effective development, planning, utilization and management of educational facilities, and capital funds. Emphasis on meeting curricular program needs.

6403 Survey of Organization and Administration Theory in Education
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
General studies in current theories applicable to educational administration; emphasis includes understanding theory and research from related academic fields; requirements include reviews of related research, and understanding appropriate research designs.
6943 Internship in Educational Administration
(1-8) 3 hours credit. Prerequisites: EDL 5603 and consent of instructor. Individually supervised field experience with unit-level or institutional level educational administrators with related applied research activity. Must be taken for both mid-management and superintendency certification. May be repeated for a total of 6 semester hours.

6953 Independent Study
3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor and the student's Graduate Advisor of Record. 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.

6973 Special Problems
3 hours credit. Prerequisite: Consent of instructor. An organized course offering the opportunity for 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 growth during the adolescent and adult period.

5033 Human Development Across the Lifespan
(3-0) 3 hours credit. Major focus on issues related to developmental behavioral change across the human lifespan. Implications for counseling individuals at various stages of their development.

5203 Fundamentals of Guidance and Counseling
(3-0) 3 hours credit. Professional issues and the job roles of school and community counselors are explored. Ethics of professional practice and minority concerns are emphasized.

5213 Counseling Theories
(3-0) 3 hours credit. Major counseling theories and techniques are presented. Students investigate affective, behavioral, and cognitive psychotherapeutic strategies.

5223 Psychological Assessment for Counseling
(3-0) 3 hours credit. Prerequisite: EDU 5003 and EDP 5203. Offers the opportunity for students to study assessment strategies with emphasis on group administered standardized tests and on analysis and interpretation of instruments used to measure achievement, aptitude, interests and personality. Casework is required.

5233 Group Theory and Process
(3-0) 3 hours credit. Prerequisite: EDP 5203 and EDP 5213. A study of small group theory, research and procedures. Provides the basis for effective group membership and leader behavior.
5243 Counseling Individuals With Behavioral and Emotional Disorders
(3-0) 3 hours credit. Prerequisites: EDP 5203 and EDP 5213.
Counseling interventions with behavioral and emotional disorders; symptomatology for psychoses, emotional disorders and maladaptive behavior patterns.

5263 Child and Adolescent Counseling
(3-0) 3 hours credit.
The emotional and behavioral disorders of childhood and adolescence are discussed. Counseling strategies are presented. Casework is required.

5283 Counseling in a Multicultural Setting
(3-0) 3 hours credit. Prerequisite: EDP 5203.
A study of major issues of counseling in multicultural settings. The impact of social stratification and cultural diversity will be examined within the context of the delivery of counseling and guidance services.

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 Development of Counseling Skills
(3-0) 3 hours credit. Prerequisite: EDP 5203 and EDP 5213.
A systematic approach to counseling. Focus on sequential learning of counseling skills and their practical application. Counseling sessions will be recorded and evaluated.

5403 The Exceptional Child in School
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
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.

5423 Behavior Modification and Classroom Management
(3-0) 3 hours credit. Prerequisite: EDP 5403 or consent of instructor.
Principles and procedures of behavior modification and classroom management to facilitate the acquisition and improvement of social academic and life skills of handicapped children and youth. Requires an applied project.

5443 Parent Conferences and Consultative Skills in Special Education
(3-0) 3 hours credit. Prerequisite: EDP 5403 or consent of instructor.
The opportunity to acquire knowledge and skills for working with parents, teachers, and other professionals in optimizing the exceptional child's educational and therapeutic experiences. Students will plan, implement, and evaluate a series of parent training and consultative 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 LLD, 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 Development and Intervention With the Handicapped Child
(3-0) 3 hours credit. Prerequisite: EDP 5403 or consent of instructor.
Methods of assisting handicapped pupils to achieve communicative competence through language acquisition, remedial and intervention programs, and alternative nonspeech language and communication systems.

5473 Behavior Analysis and Intervention with Severely/Profoundly Handicapped Children and Youth
(3-0) 3 hours credit.
Principles and procedures of behavior analysis and intervention for the acquisition and improvement of skills of the severely handicapped. An applied behavior analysis project is required.
5543 The Behaviorally Disordered Child
(3-0) 3 hours credit.
Designed to offer the opportunity for 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 Handicapped Children and Youth
(3-0) 3 hours credit.
Designed to offer the opportunity for students to develop the ability to use a variety of instruments and procedures to evaluate the behavior and performance of handicapped individuals. Assessment techniques, instruments, and procedures to evaluate cognitive, educational, psychological, and behavioral domains.

5563 Practicum in Special Education: Mildly and Moderately Handicapped Children and Youth
(3-0) 3 hours credit. Prerequisites: EDP 5403 and consent of instructor.
The application of theoretical principles to field settings. Students will be required to develop, implement, and evaluate educational programs for mildly and moderately handicapped children and youth.

5593 Practicum in Special Education: Behavior Disorders
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
The application of theoretical principles to field settings. The student will work in educational settings which will include planning, implementing, and evaluating appropriate experiences with emotionally disturbed students.

5623 Advanced Individual Appraisal
(3-0) 3 hours credit. Prerequisite: EDP 5553 or EDP 5223 or consent of instructor.
Offers the opportunity for the development of skills in the administration and interpretation of major individually administered diagnostic and clinical instruments and procedures: Wechsler Intelligence scales and supplementary tests. Limited enrollment.

5693 Practicum in Counseling
(3-0) 3 hours credit. Prerequisite: 18 hours of coursework in counseling, including EDP 5203, EDP 5213, EDP 5223, EDP 5233, and EDP 5393. Students must apply for permission to enroll one semester in advance.
Offers the opportunity for supervised field work in a counseling setting. May be repeated for credit to maximum of 9 hours.

6153 Career Development and Choice
(3-0) 3 hours credit. Prerequisite: EDP 5203.
A study of theories of occupational choice and career development and their application to the guidance and counseling process. Identification and utilization of various types of occupational information and resources in counseling interviews and guidance programs. Credit cannot be earned for both EDP 6153 and C&I 6153.

6953 Independent Study
3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor and the student’s Graduate Advisor of Record.
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.

6973 Special Problems
3 hours credit. Prerequisite: Consent of instructor.
An organized course offering the opportunity for 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
KINESIOLOGY AND HEALTH
(KAH)

5003 Current Trends in Physical and Health Education
(3-0) 3 hours credit.
Students will have the opportunity to examine current development in theories and practices of physical education. Recent research and literature will be examined for causes and consequences of today's issues, trends, and problems.

5013 The Role of Sport in Society
(3-0) 3 hours credit.
Examination of sport and physical activity from a contemporary viewpoint, its impact on society and the affective roles that it takes as part of our social structure and the institution of education.

5033 Sport Psychology
(3-0) 3 hours credit.
The study of human behavior in sport and physical activity. Psychological aspects include motivation, performance, personality, aggression and other behaviors of the various participants.

COURSE DESCRIPTIONS
SECONDARY EDUCATION
(SED)

6953 Independent Study
3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor and the student's Graduate Advisor of Record.
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.

6973 Special Problems
3 hours credit. Prerequisite: Consent of instructor.
An organized course offering the opportunity for 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.

DOCTOR OF PHILOSOPHY DEGREE IN EDUCATIONAL LEADERSHIP

The Doctor of Philosophy degree in Educational Leadership is a cooperative program between The University of Texas at San Antonio and The University of Texas at Austin. However, the degree granting authority is totally with The University of Texas at Austin. This means that the diploma will have on it the name of The University of Texas at Austin. The degree is designed to offer the student an opportunity for advanced study in the administration and governance of educational organizations. Special attention is given to culturally diverse school districts and other agencies, so that graduates may be better able to meet the multicultural needs in the southwest, particularly, South Texas.

Program Admission Requirements. Students must be admitted both to The University of Texas at San Antonio and The University of Texas at Austin. Admission is based on multiple criteria. Individuals not possessing the minimum Graduate Record Examination score or grade-point average are encouraged to apply and present additional information that may be considered in the admission process.

Degree Requirements. Degree requirements are those listed in The University of Texas at Austin Graduate Catalog. The minimum number of semester hours required for this
degree is forty eight (48) above the Master's degree. Each student's program of study is based upon the student's prior academic record and degree and career goals. Any changes in the program requirements for the doctoral degree at The University of Texas at Austin will also apply in the cooperative program. During 1991-93, a limited number of courses will be offered by The University of Texas at San Antonio faculty.

Each student will take a written two-day candidacy examination after completing a substantial amount of the program in core areas and designated electives. The examination will include a comprehensive test of generic "core" administrative knowledge and a specialized section. Faculty members from The University of Texas at San Antonio and The University of Texas at Austin will read the examinations. Each student also must complete successfully an oral examination. A student may be admitted to candidacy for the degree only when (1) these examinations have been successfully completed, (2) a program of study has been approved, (3) a dissertation topic has been approved, and (4) a dissertation committee has been appointed. All work in a candidate's proposed program must have been taken within six years of the time the student is admitted to candidacy.

Residence requirements will be consistent with present requirements at The University of Texas at Austin. Residency consists of a minimum of nine semester hours (excluding dissertation registrations) in each of two consecutive semesters, one of which may be a full summer session.

A dissertation is required of all candidates for the degree of Doctor of Philosophy. The dissertation shall constitute a contribution to knowledge and will be a product of the thorough investigation of a basic and significant area of educational leadership. A publication listing specific steps in completing the dissertation may be obtained from the office of the Division of Education at The University of Texas at San Antonio.

**COURSE DESCRIPTIONS**

**EDUCATIONAL LEADERSHIP (EDL)**

**7103 Contemporary Theory Base in Educational Leadership**

(3-0) 3 hours credit. Prerequisite: EDL 6403 or consent of instructor.
In depth study of current theory related to educational leadership. Exploration and analysis of relevant research and applications to executive administrative practices.

**7113 Sponsored Internship in Educational Leadership**

(1-16) 6 hours credit. Prerequisite: Admission through assessment and screening process jointly administered by UTSA and cooperating sponsors (application available).
Individually designed internship experience in educational leadership in school systems, adult and higher education, and other human service institutions. Jointly supervised by EDL faculty and field administrators from cooperating institutions.

**7123 Current Issues in School Finance**

(3-0) 3 hours credit. Prerequisite: EDL 5103 or consent of instructor.
Inquiry to school finance issues in local, state and federal arenas; public education as an economic institution.

**7133 Legal Issues in Educational Administration**

(3-0) 3 hours credit. Prerequisite: EDL 5703 or consent of instructor.
Special topics in legal aspects of executive management and administration of educational institutions. Emphasis on contemporary legal issues related to institutional policies and upper level administrative operations.

**7143 Topics in Personnel Administration**

(3-0) 3 hours credit. Prerequisite: EDL 6403 or consent of instructor.
Study and analysis of contemporary issues related to institutional level operations in personnel management. Studies in policy development related to personnel evaluation, recruitment, selection, and management.
7203 Organizational Systems Design and Analysis in Education
(3-0) 3 hours credit. Prerequisite: EDL 6403 or consent of instructor.
A study of systems analysis techniques applicable to human service organizations including
organizational development, and other contemporary models related to organizational
change.

7213 Staff Development and Professional In-service Programs
(3-0) 3 hours credit. Prerequisite: EDL 5003 or consent of instructor.
Examination of theory base for adult education and professional staff development. Models
for the design and implementation of workshops, seminars, and academy processes will be
analyzed. Clinical experience is a part of the course design.

7233 Leadership in Curriculum Development
(3-0) 3 hours credit. Prerequisite: EDL 5003 or consent of instructor.
An examination of processes related to the facilitation and management of curricular innova-
tion and delivery systems in varied educational settings including school systems, higher
education, and other human service institutions.

7243 Strategic and Operational Planning in Education
(3-0) 3 hours credit. Prerequisite: EDL 6403 or consent of instructor.
Examination of contemporary models for the development, facilitation and implementation of
institutional planning. Review and analysis of current practices and applicable theory base.
Applied research project is expected.

7313 Administration of Urban/Multicultural Institutions
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
Provides practicing and potential urban educational leaders with knowledge of contemporary
conditions and positive models for effective educational administrative designs including
alternative educational delivery systems.

7333 Contemporary Philosophy and Educational Leadership
(3-0) 3 hours credit. Prerequisite: consent of instructor.
Examination of current educational philosophies and their relationship to educational leader-
ship practices. Review and analysis of social, moral and institutional influences on individual
philosophy and leadership patterns.

7403 Instructional Leadership and Institutional Management
(3-0) 3 hours credit. Prerequisite: EDL 7103 or consent of instructor.
Examination and analysis of conflicting theory and practices in instructional leadership and
school management; includes study in related problems in educational, political, military, and
other human service organizations.

7413 Advanced Seminar in Instructional Supervision
(3-0) 3 hours credit. Prerequisite: EDU 6003 or consent of instructor.
Examination of theory and contemporary model practices in instructional supervision. Analysis
and evaluation of alternative approaches to the supervision of instructional personnel in
schools and other educational organizations.

7433 Advanced Seminar: Administrator as Instructional Leader
(3-0) 3 hours credit. Prerequisite: EDL 7103 or consent of instructor.
Identification and analysis of strategies, techniques and problems involved in administering
and evaluating site-based and district instructional leadership programs.

7503 Research on Executive Level Educational Management Positions
(3-0) 3 hours credit. Prerequisite: EDL 7103 or consent of instructor.
Advanced study in special problems and contemporary issues related to practice in executive
level positions in education and related fields.

7513 Research in Educational Leadership
(3-0) 3 hours credit. Prerequisite: Admission to candidacy for the doctoral degree and consent
of graduate advisor.
Design and analysis selection process for individual research and projects in Educational
Leadership.
7996 **Dissertation**
(1-16) 6 hours credit. Prerequisite: Admission to candidacy for the doctoral degree and consent of graduate advisor.
May be repeated for credit, but not more than 12 hours will apply to the doctoral degree.
DIVISION OF SOCIAL AND POLICY SCIENCES
MASTER OF PUBLIC ADMINISTRATION DEGREE

The Master of Public Administration (MPA) Degree is designed to offer the opportunity for advanced study to students interested in professional careers in the public sector at all levels of government.

Program Admission Requirements. In order to qualify for unconditional admission, applicants must satisfy university-wide graduate admission requirements and have completed an undergraduate research methods or statistics course (e.g., SSC 3013). Judgment on admission will be based on a combination of the following factors for each applicant: (a) performance on the Graduate Record Exam (GRE) or Graduate Management Admission Test (GMAT); (b) undergraduate transcripts and trend of grades; (c) professional background. Admission as a Special Graduate Student or a Special Undergraduate student does not guarantee subsequent admission as a Degree-Seeking Graduate Student. Such students must re-apply for degree-seeking status.

Degree Requirements. The minimum number of semester hours required for the MPA degree, exclusive of course work or other study required to remove deficiencies, is 42. All candidates for the degree must complete:

A. 18 semester hours of core courses:
   1. FIN 5043 Budgeting and Finance in the Public Sector
   or PAD 5373 Resource Allocation for the Public Sector
   2. PAD 5003 Contemporary Perspectives on Public Administration
   3. PAD 5323 Public Policy Formation and Implementation
   4. PAD 5903 Quantitative Methods for Public Administration
   5. PAD 6513 Communication Skills for Public Management
   6. POL 5353 Theories of Public Bureaucracy
B. 12 semester hours in a specialization chosen in consultation with the MPA program Graduate Advisor.
   1. Administration of Justice
   2. Human Resources Management
   3. International Administration and Policy
   4. Public Health Administration
   5. Public Management and Public Policy
   6. Public Sector Financial Management
   7. Urban Planning Management
C. 6 semester hours of electives
D. 6 semester hours of applied coursework (PAD 6703, 6713), internship (PAD 6963-6) or Thesis (PAD 6983-6). Consent of the MPA Graduate Advisor of Record must be received before enrollment in these courses. Students with substantial public sector management experience (normally at least 3 years) may petition to take 6 hours of coursework as a substitute for this requirement.

In addition to the semester hour requirements set forth above, all candidates for the degree are required to pass comprehensive examinations, both written and oral, which will be scheduled after a student has completed at least 30 semester hours of course work.
COURSE DESCRIPTIONS
PUBLIC ADMINISTRATION
(PAD)

5003 Contemporary Perspectives on Public Administration
(3-0) 3 hours credit. Prerequisite: Graduate standing.
Provides an introductory overview of major issues in public administration. Examines the roots of the discipline in relation to current trends in public sector management.

5223 Urban Management
(3-0) 3 hours credit.
An examination of the major economic, social, and political processes involved in managing urban government in the United States. Special attention is given to retrenchment, capital budgeting, and intergovernmental financial policies as they relate to municipal government.

5303 Ethics in Government Administration
(3-0) 3 hours credit.
An analytical and normative inquiry into the philosophical and legal foundations of government administration; the propriety, application and enforcement of ethical standards for conducting government. An empirical inquiry into the behavior of personnel in specific administrations. Topics may include the dilemmas associated with public administration in democracies, multicultural environments, and in societies marked by socio-economic and ideological stratification.

5323 Public Policy Formation and Implementation
(3-0) 3 hours credit.
Processes through which public demands are generated, converted and incorporated into formal policy. Examination of the multiple environmental factors which may affect policy implementations and outcomes.

5333 Public Policy Evaluation
(3-0) 3 hours credit.
The process, politics, and methodology of analyzing and evaluating public programs. Uses, limitations, and biases of particular methods such as cost-benefit analysis. Students are required to produce a report applying diagnostic techniques and value judgments to a particular program.

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. (Formerly POL 5343; credit cannot be earned for both POL 5343 and PAD 5343.)

5353 Policy Issues in Public Services and Employment
(3-0) 3 hours credit.
Analyzes current issues of interest such as: 1) evaluation of public services; 2) productivity evaluation; 3) job incentives; 4) public awareness; 5) budget techniques; and 6) revenue generation. May be repeated when subject matter is different.

5373 Resource Allocation for the Public Sector
(3-0) 3 hours credit.
Examines the politics and processes involved in making budgetary decisions. Analyzes the relationship of budgetary and fiscal theories to public management, budget outcomes, and how service distribution in a complex federal system is affected by budget decisions made by elected public officials.

5423 Employment and Training Programs
(3-0) 3 hours credit.
An analysis of public policies and programs designed to deal with the problems of unemployment, inflation, poverty and inequality.

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. Interaction of affirmative action policies with civil service rules, collective bargaining structures, and internal personnel systems are discussed.

5503 Introduction to Urban Planning
(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.

5543 Urban Housing
(3-0) 3 hours credit.
Analysis of housing problems, their causes, and attempted solutions. Specific attention is given to the dynamics of the urban housing market.

5563 Urban Planning Methods
(3-0) 3 hours credit.
This course focuses on the practical application of analytical tools and techniques available to the city planner in addressing social, economic, and environmental problems. Emphasis is placed on the comprehensive plan. Planning tools to be used are: shift-share, input-output, trade area, fiscal impact, and demographic analysis.

5623 Comparative Public Administration
(3-0) 3 hours credit.
Analysis of a variety of contemporary administrative systems in Western, Communist, and developing nations. Special attention to historical development, organization, functioning, and recruitment in selected bureaucracies. Examines relationships between bureaucracies and other components of the political system.

5643 International Security Policy and Administration
(3-0) 3 hours credit.
A comparative examination of governmental functions that provide for defense, internal security, economic and social administration. Topics may include comparative policy formulation; resources and defense postures; defense systems, arms transfers and control; nuclear environment; force in international law; diplomacy; threat perception and strategic surprise; intelligence agencies; deterrence.

5803 Public Health Policies and Administration
(3-0) 3 hours credit.
An examination of the major public health policies (on the federal and state levels), their basis and response to public health services demand, and their implementation programs. Focus is placed on the role of the Public Health Administrator within the policy contexts.

5823 Public Health Finance
(3-0) 3 hours credit.
The course examines and considers issues of the finance of public health programs in the context of public demands and limited resources. Financial interaction between federal, state and local governments and the private health care delivery system will also be explored. Focus will be placed on budgetary measures in the context of major public health problems such as AIDS.

5833 The Aging Population and Public Health Administration
(3-0) 3 hours credit.
The course analyzes the administrative responses needed to address changing public health demands created by demographic shifts in the population, leading to an increasing elderly population.

5843 Epidemiological Demands and Public Health Administration
(3-0) 3 hours credit.
Analyzes the administrative responses needed to address immediate and long term issues of the factors involved in large scale disease prevalence.

5903 Quantitative Methods for Public Administration
(3-0) 3 hours credit. Prerequisite: STA 1064 or SSC 3013 or equivalent.
Quantitative aspects of analysis and decision making, emphasizing research design and use of inferential and descriptive statistics with computer applications. Univariate analysis through
multivariate analysis is covered. Cost-benefit analysis, linear programming, and decision trees also may be considered.

6223 Legal Regulation of Urban Systems
(3-0) 3 hours credit. Prerequisite: PAD 5503 or consent of Instructor.
This course focuses on how the law affects municipal management and planning practice. Topics include legal research, real property law, municipal corporations, land use and land development regulation and municipal annexation.

6513 Communication Skills for Public Management
(2-2) 3 hours credit.
Offers the opportunity for students to be introduced to the use of oral, written, graphical, 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.

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.

6543 Urban Service Systems
(3-0) 3 hours credit.
Study of urban service systems (e.g., medical services, water/sewer systems, police systems, fire systems) as interrelated systems by analyzing their measures of effectiveness. The utilization of mathematical models for analyzing these functions is reviewed. Specific attention is given to spatial allocation, risk analysis, municipal deployment analysis, and multi-attribute utility techniques.

6703 Applied Public Management
(3-0) 3 hours credit.
This course provides the opportunity to apply substantive expertise and technical skills to management problems in the public sector.

6713 Applied Public Policy
(3-0) 3 hours credit.
This course provides the opportunity to apply substantive expertise and analytical skills to policy problems in the public sector.

6953 Independent Study
3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor and the student's Graduate Advisor of Record. 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.

6961 Comprehensive Examination
1 hour credit. Prerequisite: Approval of the appropriate Committee on Graduate Studies to take the Comprehensive Examination. Independent study course for the purpose of taking the Comprehensive Examination. May be repeated as many times as approved by the Committee on Graduate Studies. Enrollment is required each term in which the Comprehensive Examination is taken if no other courses are being taken that term. The grade report for the course is either CR (satisfactory performance on the Comprehensive Examination) or NC (unsatisfactory performance on the Comprehensive Examination).

6963-6 Internship
3 to 6 hours credit.
An opportunity will be provided for the students to work in a setting which will permit them to apply the knowledge learned in the formal instruction part of the program. May be repeated for credit to a maximum of 6 hours.

6973 Special Problems
3 hours credit. Prerequisite: Consent of instructor. An organized course offering the opportunity for 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.

6983-6 Master’s Thesis
3-6 hours credit. Prerequisites: Permission of the Graduate Advisor of Record 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
CRIMINAL JUSTICE
(CRJ)

5013 Crime and Justice: Theory and Policy
(3-0) 3 hours credit.
An examination of the phenomenon of crime, its impact on victims, social institutions and the criminal-justice system. Particular attention will be given to the interactions between theories of crime, the processes for developing policy alternatives and implementation of justice delivery. (Formerly CRJ 5003; credit cannot be earned for both CRJ 5003 and CRJ 5013.)

5423 Seminar in Correctional Administration
(3-0) 3 hours credit.
A study of correctional components of the criminal justice system including institutional and community-based. Reviews impact of legal and social change on correctional agencies. Emphasis on planning and evaluation of innovative programs.

5543 Juvenile Justice, Schools and Public Policy
(3-0) 3 hours credit.
An examination of the causes, extent and nature of delinquent behavior, the role of schools and related social institutions. Focuses on juvenile law and the judicial process, school and public policies for delinquency prevention and control; evaluative research on the relative costs and effectiveness of various interventions and programs. (Formerly CRJ 6973 Special Problems: Juvenile Justice and the Schools; credit cannot be earned for both the former and CRJ 5543.)

5753 Legal Dimensions of Criminal Justice
(3-0) 3 hours credit.
A review of recent and contemporary legal issues related to the administration of criminal justice. Examines legal parameters of the criminal justice system in terms of impact on various component parts.

6953 Independent Study
3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of the instructor and the student’s Graduate Advisor of Record. 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.

6973 Special Problems
3 hours credit. Prerequisite: Consent of instructor. An organized course offering the opportunity for 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

GEOGRAPHY

(GRG)

5303 Economics 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.

5323 Seminar In Urban Geography
(3-0) 3 hours credit.
Advanced study of urban structure and urban dynamics viewed from a spatial perspective. Topics may include urbanization, housing and neighborhood space, intraurban migration, the location of economic activity in the city, and urban land use systems. May be repeated for credit when the topics vary.

6973 Special Problems
3 hours credit. Prerequisite: Consent of instructor.
An organized course offering the opportunity for 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

POLITICAL SCIENCE

(POL)

5153 American Government and Polities
(3-0) 3 hours credit.
An examination of the major issues, problems and processes of American government and administration.

5353 Theories of Public Bureaucracy
(3-0) 3 hours credit.
Students are offered the opportunity to examine some of the major theories of bureaucracy and their effect on the development of public bureaucracy in the United States. The relationship of major sociological and ethical theories to public bureaucracy will also be examined.

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.

5513 Administrative Law
(3-0) 3 hours credit.
Students are provided the opportunity to examine administrative rules, regulations and procedures from a legal perspective. Topics may include the delegation of authority; administrative rule making, discretion and hearings; freedom of information; and judicial review of administrative rulings.

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.

5703 American Foreign Policy
(3-0) 3 hours credit.
An intensive analysis of the policy formulation process and the substance of selected contemporary problems in foreign policy. Political and institutional factors affecting foreign policies will be stressed along with the analysis of policy options.
5713 Comparative Political Systems  
(3-0) 3 hours credit.  
Comparative analysis of institutions, processes and policy objectives in various Western,  
Communist and developing political systems.

6953 Independent Study  
3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of  
the instructor and the student's Graduate Advisor of Record.  
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, regard-  
less of discipline, will apply to the Master's Degree.

6973 Special Problems  
3 hours credit. Prerequisite: Consent of instructor.  
An organized course offering the opportunity for 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  
SOCIOLOGY  
(SOC)  

6953 Independent Study  
3 hours credit. Prerequisites: Graduate standing and permission in writing (form available) of  
the instructor and the student's Graduate Advisor of Record.  
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, regard-  
less of discipline, will apply to the Master's Degree.

6973 Special Problems  
(3-0) 3 hours credit. Consent of instructor.  
An organized course offering the opportunity for 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.
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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.

Academic Advisement ............................................. College Deans
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 ......................................... College Deans
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 Student Services
Health Services .............................................. Student Health Center
International Students ..................................... Director of Student Services
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 Activities ............................................. Director of Student Activities
Student Employment ......................................... Director of Financial Aid
   Director of Career Planning and Placement Center
Student Services, General .................................. 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