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I

CALENDAR

GRADUATE
*FALL SEMESTER, 1993

January 1	Friday. International student doctoral admission application deadline.
February 1	Monday. Deadline for doctoral applicants to apply for admission and provide supporting documents.
June 1	Tuesday. International student master's admission application deadline for Fall, 1993.
June 14-July 16	Touch Tone Telephone Registration for Fall Semester, 1993.
June 15	Tuesday. Fall, 1993 deadline to file Petition for Reinstatement for students who have been academically dismissed.
July 1	Thursday. Deadline for master's applicants to apply for admission and provide supporting documents for Fall, 1993.
August 25	Wednesday. New and returning former student registration.
August 26	Thursday. Late registration.
August 27	Friday. Last day to withdraw from all classes and receive a 100% refund of tuition and fees.
August 30	Monday. Classes begin. Continuing late registration.
September 1	Wednesday. Last day of late registration.
September 3	Friday. Last day to withdraw from all classes and receive an 80% refund of tuition and fees. Last day to add a class.
September 6	Monday. Labor Day Holiday.
September 13	Monday. Last day to withdraw from all classes and receive a 70% refund of tuition and fees.
September 15	Wednesday. Last day to: drop an individual course or withdraw from all classes without a grade; drop a class and receive a refund. Census Date.
September 20	Monday. Last day to withdraw from all classes and receive a 50% refund of tuition and fees.
September 27	Monday. Last day to withdraw from all classes and receive a 25% refund of tuition and fees.
October 1	Friday. Deadline for Fall, 1993 degree candidates to apply for graduation.
October 15	Friday. International student master's admission application deadline for Spring, 1994. Spring, 1994 deadline to file Petition for Reinstatement for students who have been academically dismissed.
October 29	Friday. Last day to drop an individual course or withdraw from all classes and receive an automatic "W".
November 25-27	Thursday-Saturday. Thanksgiving Holidays.
December 6	Monday. Last day to withdraw from all classes.
December 13-18	Monday-Saturday. Final Examinations.
December 18	Saturday. Semester closes.

* For a more detailed calendar of semester events, see the Schedule of Classes for each semester.

*SPRING SEMESTER, 1994

October 15	Friday. International student master's admission application deadline for Spring, 1994. Spring, 1994 deadline to file Petition for Reinstatement for students who have been academically dismissed.
October 28-December 3	Touch Tone Telephone Registration for Spring Semester, 1994.
December 1	Wednesday. Deadline for master's applicants to apply for admission and provide supporting documents for Spring, 1994.
January 12	Wednesday. New and returning former student registration.
January 13	Thursday. Late registration.
January 14	Friday. Last day to withdraw from all classes and receive a 100% refund of tuition and fees.
January 17	Monday. Martin Luther King, Jr. Holiday.
January 18	Tuesday. Classes begin. Continuing late registration.
January 19	Wednesday. Last day of late registration.
January 21	Friday. Last day to add a class.
January 24	Monday. Last day to withdraw from all classes and receive an 80% refund of tuition and fees.
January 31	Monday. Last day to withdraw from all classes and receive a 70% refund of tuition and fees.
February 1	Tuesday. Deadline for Spring, 1994 degree candidates to apply for graduation.
February 2	Wednesday. Last day to: drop an individual course or withdraw from all classes without a grade; drop a class and receive a refund. Census Date.
February 7	Monday. Last day to withdraw from all classes and receive a 50% refund of tuition and fees.
February 14	Monday. Last day to withdraw from all classes and receive a 25% refund of tuition and fees.
March 1	Tuesday. International student master's admission application deadline for Summer Sessions I and II, 1994.
March 15	Tuesday. Summer, 1994 deadline to file Petition for Reinstatement for students who have been academically dismissed.
March 18	Friday. Last day to drop an individual course or withdraw from all classes and receive an automatic "W".
March 21-26	Monday-Saturday. Spring Break.
May 2	Monday. Last day to withdraw from all classes.
May 9-14	Monday-Saturday. Final Examinations.
May 14	Saturday. Semester closes.

*SUMMER SESSION, 1994

March 1	Tuesday. International student master's admission application deadline for Summer Sessions I and II, 1994.
March 15	Tuesday. Summer, 1994 deadline to file 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.

April 4-29	Touch Tone Telephone Registration for Summer Sessions I and II, 1994.
May 1	Sunday. Deadline for master's applicants to apply for admission and provide supporting documents for Summer Sessions I and II, 1994.
June 2	Thursday. New and returning former student registration for Summer Sessions I and II, 1994. Late registration for continuing students for Summer Sessions I and II.
June 3	Friday. Last day to withdraw from all classes in Summer Session I and receive a 100% refund of tuition and fees.
June 6	Monday. Classes begin for Summer Session I. Continuing late registration.
June 7	Tuesday. Last day of late registration. Last day to add a class for the first five-week and ten-week terms.
June 8	Wednesday. Last day to withdraw from all classes in Summer Session I and receive an 80% refund of tuition and fees.
June 9	Thursday. Last day in Summer Session I to: drop an individual course or withdraw from all classes without a grade; drop a class and receive a refund. Census Date.
June 13	Monday. Last day to withdraw from all classes in Summer Session I and receive a 50% refund of tuition and fees.
June 15	Wednesday. Fall, 1994 deadline to file Petition for Reinstatement for students who have been academically dismissed.
June 24	Friday. Last day for students enrolled in the first five-week term to drop an individual course or withdraw from all classes and receive an automatic "W".
July 1	Friday. Last day to withdraw from all classes for the first five-week term. Deadline for Summer, 1994 degree candidates to apply for graduation.
July 7-8	Thursday-Friday. Final examinations for courses in the first five-week term.
July 8	Friday. Close of the first five-week term. Last day to withdraw from all classes in Summer Session II and receive a 100% refund of tuition and fees.
July 11	Monday. Classes begin for Summer Session II. Late registration for Summer Session II.
July 12	Tuesday. Last day of late registration for Summer Session II. Last day to add a Summer Session II class.
July 13	Wednesday. Last day to withdraw from all classes in Summer Session II and receive an 80% refund of tuition and fees.
July 14	Thursday. Last day in Summer Session II to: drop an individual course or withdraw from all classes without a grade; drop a class and receive a refund. Census Date.
July 15	Friday. Last day for students enrolled in the ten-week term to drop an individual course or withdraw from all classes and receive an automatic "W".

* For a more detailed calendar of semester events, see the Schedule of Classes for each semester.

July 18	Monday. Last day to withdraw from all classes in Summer Session II and receive a 50% refund of tuition and fees.
July 29	Friday. Last day for students enrolled in the second five-week term to drop an individual course or withdraw from all classes and receive an automatic "W".
August 5	Friday. Last day to withdraw from all classes for the second five-week and ten-week terms.
August 10-12	Wednesday-Friday. Final examinations for courses in the second five-week and ten-week terms.
August 12	Friday. Semester closes.

*FALL SEMESTER, 1994

January 1	Saturday. International student doctoral admission application deadline.
February 1	Tuesday. Deadline for doctoral applicants to apply for admission and provide supporting documents.
June 1	Wednesday. International student master's admission application deadline for Fall Semester, 1994.
June 13-July 15	Touch Tone Telephone Registration for Fall Semester, 1994.
June 15	Wednesday. Fall, 1994 deadline to file Petition for Reinstatement for students who have been academically dismissed.
July 1	Friday. Deadline for master's applicants to apply for admission and provide supporting documents for Fall, 1994.
August 24	Wednesday. New and returning former student registration.
August 25	Thursday. Late registration.
August 26	Friday. Last day to withdraw from all classes and receive a 100% refund of tuition and fees.
August 29	Monday. Classes begin. Continuing late registration.
August 31	Wednesday. Last day of late registration.
September 2	Friday. Last day to withdraw from all classes and receive an 80% refund of tuition and fees. Last day to add a class.
September 5	Monday. Labor Day Holiday.
September 12	Monday. Last day to withdraw from all classes and receive a 70% refund of tuition and fees.
September 14	Wednesday. Last day to: drop an individual course or withdraw from all classes without a grade; drop a class and receive a refund. Census Date.
September 19	Monday. Last day to withdraw from all classes and receive a 50% refund of tuition and fees.
September 26	Monday. Last day to withdraw from all classes and receive a 25% refund of tuition and fees.
October 1	Saturday. Deadline for Fall, 1994 degree candidates to apply for graduation.
October 15	Saturday. International student master's admission application deadline for Spring, 1995. Spring, 1995 deadline to file 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.

October 28	Friday. Last day to drop an individual course or withdraw from all classes and receive an automatic "W".
November 24-26	Thursday-Saturday. Thanksgiving Holidays.
December 5	Monday. Last day to withdraw from all classes.
December 12-17	Monday-Saturday. Final Examinations.
December 17	Saturday. Semester closes.

*SPRING SEMESTER, 1995

October 15	Saturday. International student master's admission application deadline for Spring, 1995. Spring, 1995 deadline to file Petition for Reinstatement for students who have been academically dismissed.
October 27-December 2	Touch Tone Telephone Registration for Spring Semester, 1995.
December 1	Thursday. Deadline for master's applicants to apply for admission and provide supporting documents for Spring, 1995.
January 11	Wednesday. New and returning former student registration.
January 12	Thursday. Late registration.
January 13	Friday. Last day to withdraw from all classes and receive a 100% refund of tuition and fees.
January 16	Monday. Martin Luther King, Jr. Holiday.
January 17	Tuesday. Classes begin. Continuing late registration.
January 18	Wednesday. Last day of late registration.
January 20	Friday. Last day to add a class.
January 23	Monday. Last day to withdraw from all classes and receive an 80% refund of tuition and fees.
January 30	Monday. Last day to withdraw from all classes and receive a 70% refund of tuition and fees.
February 1	Wednesday. Last day to: drop an individual course or withdraw from all classes without a grade; drop a class and receive a refund. Census Date. Deadline for Spring, 1995 degree candidates to apply for graduation.
February 6	Monday. Last day to withdraw from all classes and receive a 50% refund of tuition and fees.
February 13	Monday. Last day to withdraw from all classes and receive a 25% refund of tuition and fees.
March 1	Wednesday. International student master's admission application deadline for Summer Sessions I and II, 1995.
March 15	Wednesday. Summer, 1995 deadline to file Petition for Reinstatement for students who have been academically dismissed.
March 17	Friday. Last day to drop an individual course or withdraw from all classes and receive an automatic "W".
March 20-25	Monday-Saturday. Spring Break.
May 1	Monday. Last day to withdraw from all classes.
May 8-13	Monday-Saturday. Final Examinations.
May 13	Saturday. Semester closes.

* For a more detailed calendar of semester events, see the Schedule of Classes for each semester.

*SUMMER SESSION, 1995

March 1 Wednesday. International student master's admission application deadline for Summer Sessions I and II, 1995.

March 15 Wednesday. Summer, 1995 deadline to file Petition for Reinstatement for students who have been academically dismissed.

April 3-28 Touch Tone Telephone Registration for Summer Sessions I and II, 1995.

May 1 Monday. Deadline for master's applicants to apply for admission and provide supporting documents for Summer Sessions I and II, 1995.

June 1 Thursday. New and returning former student registration for Summer Sessions I and II, 1995. Late registration for continuing students for Summer Sessions I and II.

June 2 Friday. Last day to withdraw from all classes in Summer Session I and receive a 100% refund of tuition and fees.

June 5 Monday. Classes begin for Summer Session I. Continuing late registration.

June 6 Tuesday. Last day of late registration. Last day to add a class for the first five-week and ten-week terms.

June 7 Wednesday. Last day to withdraw from all classes in Summer Session I and receive an 80% refund of tuition and fees.

June 8 Thursday. Last day in Summer Session I to: drop an individual course or withdraw from all classes without a grade; drop a class and receive a refund. Census Date.

June 12 Monday. Last day to withdraw from all classes in Summer Session I and receive a 50% refund of tuition and fees.

June 15 Thursday. Fall, 1995 deadline to file Petition for Reinstatement for students who have been academically dismissed.

June 23 Friday. Last day for students enrolled in the first five-week term to drop an individual course or withdraw from all classes and receive an automatic "W".

June 30 Friday. Last day to withdraw from all classes for the first five-week term.

July 1 Saturday. Deadline for Summer, 1995 degree candidates to apply for graduation.

July 6-7 Thursday-Friday. Final examinations for courses in the first five-week term.

July 7 Friday. Close of the first five-week term. Last day to withdraw from all classes in Summer Session II and receive a 100% refund of tuition and fees.

July 10 Monday. Classes begin for Summer Session II. Late registration for Summer Session II.

July 11 Tuesday. Last day of late registration for Summer Session II. Last day to add a Summer Session II class.

July 12 Wednesday. Last day to withdraw from all classes in Summer Session II and receive an 80% refund of tuition and fees.

* For a more detailed calendar of semester events, see the Schedule of Classes for each semester.

July 13	Thursday. Last day in Summer Session II to: drop an individual course or withdraw from all classes without a grade; drop a class and receive a refund. Census Date.
July 14	Friday. Last day for students enrolled in the ten-week term to drop an individual course or withdraw from all classes and receive an automatic "W".
July 17	Monday. Last day to withdraw from all classes in Summer Session II and receive a 50% refund of tuition and fees.
July 28	Friday. Last day for students enrolled in the second five-week term to drop an individual course or withdraw from all classes and receive an automatic "W".
August 4	Friday. Last day to withdraw from all classes for the second five-week and ten-week terms.
August 9-11	Wednesday-Friday. Final examinations for courses in the second five-week and ten-week terms.
August 11	Friday. Semester closes.

II
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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 42 undergraduate degree programs, 23 graduate, one doctoral degree program, and one cooperative Ph.D. program.

Ninety-nine percent of the tenured and tenure-track faculty hold the doctorate or terminal degree in their fields. Since the establishment of UTSA, 36 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 16,767 in Fall 1992, 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 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 building 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.

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

The President at UT San Antonio is assisted by a staff including a Provost and 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, a Vice President for Downtown Operations, and an Executive Director of the Institute of Texan Cultures.

The Provost and 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 the development, administration and quality of all academic programs, the administration of the academic budget, academic policy development and implementation, and all matters directly affecting faculty. 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, Information Technology, 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 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 Vice President for Downtown Operations has responsibility for stimulating stronger academic linkages to programs at the University of Texas at San Antonio. The Executive Director, Institute of Texan Cultures, is responsible for the administration and management of all Institute programs, activities and exhibits; leadership in educational programming and content production; the dissemination of historical and cultural information to the public and the schools; the development and management of volunteer programs; and fund raising.

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 former Chairman of the University of Texas System Board of Regents. The goals of the Library are to collect, organize, maintain and preserve materials appropriate for the use of faculty, staff and students, and to establish and maintain services that ensure optimal access to and use of the Library's resources as well as other local, state, national, and international resources.

As of Fall 1992, the Library's collections include approximately 500,000 volumes, 101,000 federal and state publications, 2,200 periodical subscriptions, and 1.95 million microforms. The majority of materials are on open shelves for browsing and ease of access. In addition to traditional library facilities the Library also has an audiovisual center, a curriculum materials center, a bibliographic instruction center and a student PC lab. Carrels, group study rooms, and faculty studies are located throughout the building to provide a variety of study opportunities.

The UTSA Library provides a full range of services to its clientele. Public Services staff include librarians with additional subject expertise who will assist patrons in the use of the Library's collections. The Library's holdings cover a diverse range of subjects in support of the teaching and research missions of the University. The Special Collections Department contains a wide variety of unique and rare materials focusing on San Antonio, Texana and Western Americana. Notable among its collections are the John Peace Collection of documents and books from the period of the Republic of Texas and the Kathryn Stoner O'Conner Collection of early Texas and Mexican materials on permanent deposit from the Sons of the Republic of Texas.

The Library's catalog is now available online and can be accessed from remote locations. A variety of other electronic products, including indexes, text, and data are also available. Services enabling patrons to access materials not owned by the Library include interlibrary loan, fax services, and cooperative borrowing privileges at other institutions. For specific information on services and regulations contact the UTSA Library.

INSTITUTE FOR THE ARTS AND HUMANITIES

The Institute for the Arts and Humanities is located in the College of Fine Arts and Humanities. 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 research and further studies, and making available general information on the arts of Western Europe and the Americas.

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 focuses primarily 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 component of the College of Business. The major objectives of the Institute are to offer the opportunity for faculty and students of the University to have superior research environment for problem solving, to encourage interaction between the business community of San Antonio and the University, and to provide applied economics and business training to students. 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 applied problems encountered in both public and private decision making. Specialized data files are maintained on a continuing basis, while a research library and computer systems guide interested users to sources of information. The knowledge and experience of the University's faculty and professional staff are utilized to undertake specific problems in the broad categories of marketing, economic analysis and modeling, human resource planning, information systems, financial analysis, and economic development research. The

Institute, therefore, draws upon the creative resources, energy, and talent of the faculty, of the Institute staff, and of the students.

INSTITUTE FOR RESEARCH IN SCIENCES AND ENGINEERING

The Institute for Research in Sciences and Engineering (IRSE) serves primarily the College of Sciences and Engineering (COSE) as an incubator for developing and nurturing research teams in the formative stages of projects. In this capacity IRSE identifies research opportunities, assembles multidisciplinary teams from within COSE and the other colleges at UTSA, and assists in the development of grants and contracts. When the research focus requires additional expertise, IRSE serves as the principal link throughout San Antonio to bring together the resources needed. One of the most important resources is the Southwest Research Consortium. Once the research team becomes self-sustaining, specialized centers are created. One such center has been established within COSE, Center for Water Research, and others are in the formative stage.

IRSE also furthers opportunities for faculty and students within COSE to develop quality research programs by acquiring information from federal, regional and local funding sources. This information is distributed bimonthly in the IRSE Newsletter. Faculty also receive assistance in the preparation of competitive research proposals and in the management of funded research projects.

CENTER FOR WATER RESEARCH

The Center for Water Research is a research component of the College of Sciences and Engineering at the University of Texas at San Antonio and was organized in January 1987. Major areas of research at the Center include hydrogeology, surface water hydrology, geochemistry, geophysics, and geotechnical engineering. Research is conducted by engineers and scientists on the Center's staff, members of the faculty, and undergraduate and graduate students at UTSA. Research and analysis capabilities include stable and unstable isotope geochemistry, water chemistry, borehole geophysical logging, surface geophysical surveys, structural geology of aquifer systems, microbiology of bio-remediation, leakage and contaminant studies, mathematical modeling of groundwater flow and contaminant transport, surface-water modeling, economic analysis of water usage, formulation of decision models for water planning, and study of municipal water supply and treatment systems.

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 support of 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 on learning and development, particularly as it relates to the educational process. Faculty and students from this College, as well as from other Colleges of the University, are encouraged to use the Center to help them 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 helps identify and coordinate faculty, student, and community interests, needs, and resources. Many of the projects undertaken through the Center involve cooperative efforts among the University, local school districts, and the community.

HISPANIC RESEARCH CENTER

The Hispanic Research Center was established in September 1989, and operates under the auspices of the Provost and 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 Provost and 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 hours of graduate coursework.

OFFICE OF RESEARCH ON TEACHING AND LEARNING

The Office of Research on Teaching and Learning (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 teaching processes to promote students' learning, (2) to study teaching in varied instructional settings, and (3) to interpret and disseminate research findings on the processes of teaching 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 and learning.

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 and to promote understanding of the complexities and dimensions of teaching.

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 Michael Tracy; and print exhibitions of the works of Pablo Picasso and Joe Guadalupe Posada. Also presented are the biennial exhibits by members of the faculty of Art and Architecture.

THE UNIVERSITY BOOKSTORE

The University Bookstore, operated by Barnes and Noble Bookstores, Inc., 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. Operated by ARA Dining Services, the cafeterias provide breakfast, lunch, dinner and snacks. Daily specials and salad bars are available at these facilities.

A 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. Catering is also provided 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.

INFORMATION TECHNOLOGY

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-wide fiber-optic backbone network connects all 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 University of Texas System Center for High Performance Computing include a Cray x-MP/24 and 14se with Convex and VAX interfaces accessible via the network.

Administration 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 COMPUTER STORE

A UTSA owned and operated computer store is located on the first floor of the Science Building and offers computer systems and software at educational discounts to students, faculty and staff.

THE UNIVERSITY CENTER

The University Center, 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 Campus Activities Board 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 dues-paying membership organization governed by a twenty-one member board of directors elected by the membership. The Director of Alumni Programs, located in the Office of Alumni Programs, JPL 4.01.06, manages the daily operations of the Association. The mission of the Association is to "strengthen ties among the University, its past, present, and future students, and the community to promote and support programs and initiatives that advance academic excellence." To fulfill this mission, the

Association provides scholarships to new and current students, and engages in fund raising activities for this objective. Numerous events are offered during the year, including the annual meeting each fall, the 5K Hightailer, and Homecoming.

VETERANS' ASSISTANCE

Educational benefits are 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 Provost and 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 University of Texas 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 served as an educational center for the interpretation of Texas history and folk culture. Displays of art and artifacts become a teaching laboratory as professionally training 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 10,000 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:[1]

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 fee, installment fee, I.D. card fee, add/drop fee and the property deposit are not eligible for the installment payment program and must be 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.

[1]Tuition and fees are subject to change by Legislative action or by action of the Board of Regents of the University of Texas System. 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.

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 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[2] 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

Number of Hours Taken[3]	Texas Residents FY 93-94	Texas Residents FY 94-95	Nonresidents FY 93-94
1	120.00	120.00	172.00
2	120.00	120.00	344.00
3	144.00	144.00	516.00
4	192.00	192.00	688.00
5	240.00	240.00	860.00
6	288.00	288.00	1,032.00
7	336.00	336.00	1,204.00
8	384.00	384.00	1,376.00
9	432.00	432.00	1,548.00
10	480.00	480.00	1,720.00
11	528.00	528.00	1,892.00
12	576.00	576.00	2,064.00
13	624.00	624.00	2,236.00
14	672.00	672.00	2,408.00
15	720.00	720.00	2,580.00

[2]See Exemption from Tuition and Fees in this section of the catalog.

[3]Tuition for thesis or dissertation credit only is $48.00 for residents of Texas and $172.00 for nonresidents.

16	768.00	768.00	2,752.00
17	816.00	816.00	2,924.00
18	864.00	864.00	3,096.00
19	912.00	912.00	3,268.00
20	960.00	960.00	3,440.00
21	1,008.00	1,008.00	3,612.00
Each Additional Hour	48.00	48.00	172.00

TUITION SUMMER SESSION

	Texas Residents				Nonresidents
Number of Hours Taken[4]	**Each Summer Term FY 93-94**	**Entire Summer Session FY 93-94**	**Each Summer Term FY 94-95**	**Entire Summer Session FY 94-95**	**FY 93-94**
1	60.00	120.00	60.00	120.00	172.00
2	96.00	120.00	96.00	120.00	344.00
3	144.00	120.00	144.00	120.00	516.00
4	192.00	192.00	192.00	192.00	688.00
5	240.00	240.00	240.00	240.00	860.00
6	288.00	288.00	288.00	288.00	1,032.00
7	336.00	336.00	336.00	336.00	1,204.00
8	384.00	384.00	384.00	384.00	1,376.00
9	432.00	432.00	432.00	432.00	1,548.00
10	480.00	480.00	480.00	480.00	1,720.00
11	528.00	528.00	528.00	528.00	1,892.00
12	576.00	576.00	576.00	576.00	2,064.00
13	624.00	624.00	624.00	624.00	2,236.00
14	672.00	672.00	672.00	672.00	2,408.00
15	720.00	720.00	720.00	720.00	2,580.00
Each Additional Hour	48.00	48.00	48.00	48.00	172.00

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.[5] 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.

[4]Tuition for thesis or dissertation credit only is $48.00 in FY 94 and $48.00 in FY 95 for residents of Texas and $172.00 for nonresidents.

[5]For residence regulations, consult the Office of Admission and 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.

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:

SEMESTER CREDIT HOURS	GENERAL FEE	STUDENT SERVICES FEE FY 93-94
1	12.00	11.00
2	24.00	22.00
3	36.00	33.00
4	48.00	44.00
5	60.00	55.00
6	72.00	66.00
7	84.00	77.00
8	96.00	88.00
9	108.00	99.00
10	120.00	108.00
11	132.00	108.00
12	144.00	108.00
13	156.00	108.00
14	168.00	108.00
15	180.00	108.00
Each Additional Hour	12.00	-0-

AUTOMATED SERVICES AND COMPUTER ACCESS FEE

Each student who registers at UT San Antonio is required to pay a $5.00 per semester credit hour fee. The minimum fee is $25.00 and the maximum fee is $75.00 per semester.

[6]See the Exemption from Tuition and Fees in this section of the catalog.

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.

INTERNATIONAL EDUCATION FEE

A $1.00 per semester fee will be assessed all students enrolled at UT San Antonio to cover the costs of the international education programs.

UNIVERSITY CENTER FEE

University Center Fees are as follows:
$30.00 per student, each regular session; $15.00 each summer session.

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.

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.

APPLICATION FEE

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

AUDITING FEE

All auditors of courses must submit an approval 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 $25.00 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 $50.00 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 fee. 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.

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 PLACEMENT FEE

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

DEGREE APPLICATION FEE

A $30.00 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.

EDUCATIONAL FIELD INSTRUCTION FEE

A $25.00 fee will be assessed all students during their semester of student teaching, and for students in special education practicum settings, counseling, and student interns.

ESL AUXILIARY FEE

A $30.00 fee per course will be assessed international students taking English as a Second Language course(s).

FIELD TRIP FEE

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

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 $7.00 per course fee.

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.

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.

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.[7]

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.

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[7]Borrowing and fine regulations of the UTSA Library are available in the Library.

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 $60.00 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.

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.

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.

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 associate fee.

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 Advising, 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.

THESIS AND DISSERTATION BINDING FEE

A fee of $20.00 per copy is charged for binding the two official copies of the thesis to be filed with the University.

TRANSCRIPT FEE

A charge of $5.00 is made for each UT San Antonio transcript to be processed and mailed within 48 hours. A charge of $8.00 is required if the transcript is to be provided within 1 hour. This fee must be paid before a transcript will be issued.

WRITING MATERIALS FEE

A $4.00 fee per course will be assessed students taking English composition courses.

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:

Class G & *Class D	$36.00 20.00	General & Dormitory parking permit, if purchased during the fall semester. General & Dormitory parking permit, if purchased during spring semester.
	15.00	General & Dormitory parking permit, if purchased during the summer session.
Class C	$16.00	Motorcycle, motor scooter, motorbike parking permit, if purchased during the fall semester.
	10.00	Motorcycle, motor scooter, motorbike parking permit, if purchased during the spring semester.
	5.00	Motorcycle, motor scooter, motorbike parking permit, if purchased during the summer session.
Class W	4.00	Bicycle parking permit, if purchased any time during the academic year.
Class M	$26.00	Mini-car parking permit if purchased during the fall semester.
	15.00	Mini-car parking permit if purchased during the spring session.
	12.00	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 disabled persons in accordance with applicable statutory law and U.T. 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 II, Subdivision II, Section 7.

*Dormitory permits are valid in Dormitory lot and any unrestricted line parking space in other parking lots.

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.

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.

CATEGORY	ANNUAL FEE
1. Full-time student spouse	$6.00 per semester or entire summer
2. Full-time student child	6.00 per semester or entire summer

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.

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.

CATEGORY	ANNUAL FEE	
1. Faculty-staff member	$12.00	
2. Faculty-staff spouse	12.00	
3. Faculty-staff child	12.00	(maximum of $40.00 per family)

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.

CATEGORY	ANNUAL FEE
A. UTSA Personnel	
1) Faculty-staff member	$12.00
2) Faculty-staff spouse	6.00
3) Faculty-staff child	3.00 (maximum of $25.00 per family)
4) Student spouse	3.00
5) Student child	1.00
B. UTSA Alumni Association Member	$12.00
C. Guest Fee Guest of UT San Antonio student, faculty member or staff member	$ 1.00 /visit

These fees are non-refundable.

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.

DESCRIPTION	ELIGIBILITY	FEES EXEMPTED
Accredited School Scholarship	Highest ranking graduate of an accredited Texas high school	Tuition during first two semesters (long session) following graduation
Texas Ex-Servicemen	(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	Tuition Laboratory fees Supplementary fees General fee
Children of Disabled Texas Firemen and Peace Officers	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	Tuition Required fees[8]

[8] Required fees include laboratory fees, supplementary fees, the general fee, student services fee and the University Center fee.

Blind and Deaf Students	A blind disabled person, or a person whose sense of hearing is nonfunctional	Tuition Required fees[9] General Property Deposit
Children of Texas Veterans	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.	Tuition Laboratory fees Supplementary fees General fee
Good Neighbor Scholarship	(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	Tuition
Firemen Enrolled in Fire Science Courses	Enrolled in course offered as part of fire science curriculum	Tuition Laboratory fees Supplementary fees
Children of Prisoners of War or Persons Missing in Action	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.	Tuition Required fees[10]

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.

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.[11]

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.

[9, 10] Required fees include laboratory fees, supplementary fees, the general fee, student services fee and the University Center fee.
[11] These refund percentages are applicable to tuition, the supplementary fees, the general fee, laboratory fees, University Center fee, and the student services fees.

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.

REFUNDING FOR STUDENTS IN TITLE IV PROGRAMS

As an institution participating in programs under Title IV of the *Higher Education Act of 1965* as amended ("Act"), The University of Texas at San Antonio is required to refund unearned tuition, fees, room and board, and other charges to certain students attending the institution for the first time who have received a grant, a loan, or work assistance under Title IV of the Act or whose parents have received a loan on their behalf under 20 U.S.C. Section 1087-2. The refund is required if the student does not register for, withdraws from, or otherwise fails to complete the period of enrollment for which the financial assistance was intended. No refund is required if the student withdraws after a point in time that is sixty percent of the period of enrollment for which the charges were assessed. A student who withdraws prior to that time is entitled to a refund of tuition, fees, room and board, and other charges that is the larger of the amount provided for in Section 54.006, *Texas Education Code*, or a pro rata refund calculated pursuant to Section 484B of the Act, reduced by the amount of any unpaid charges and a reasonable administrative fee not to exceed $25.00.

DEBTS OWED THE UNIVERSITY

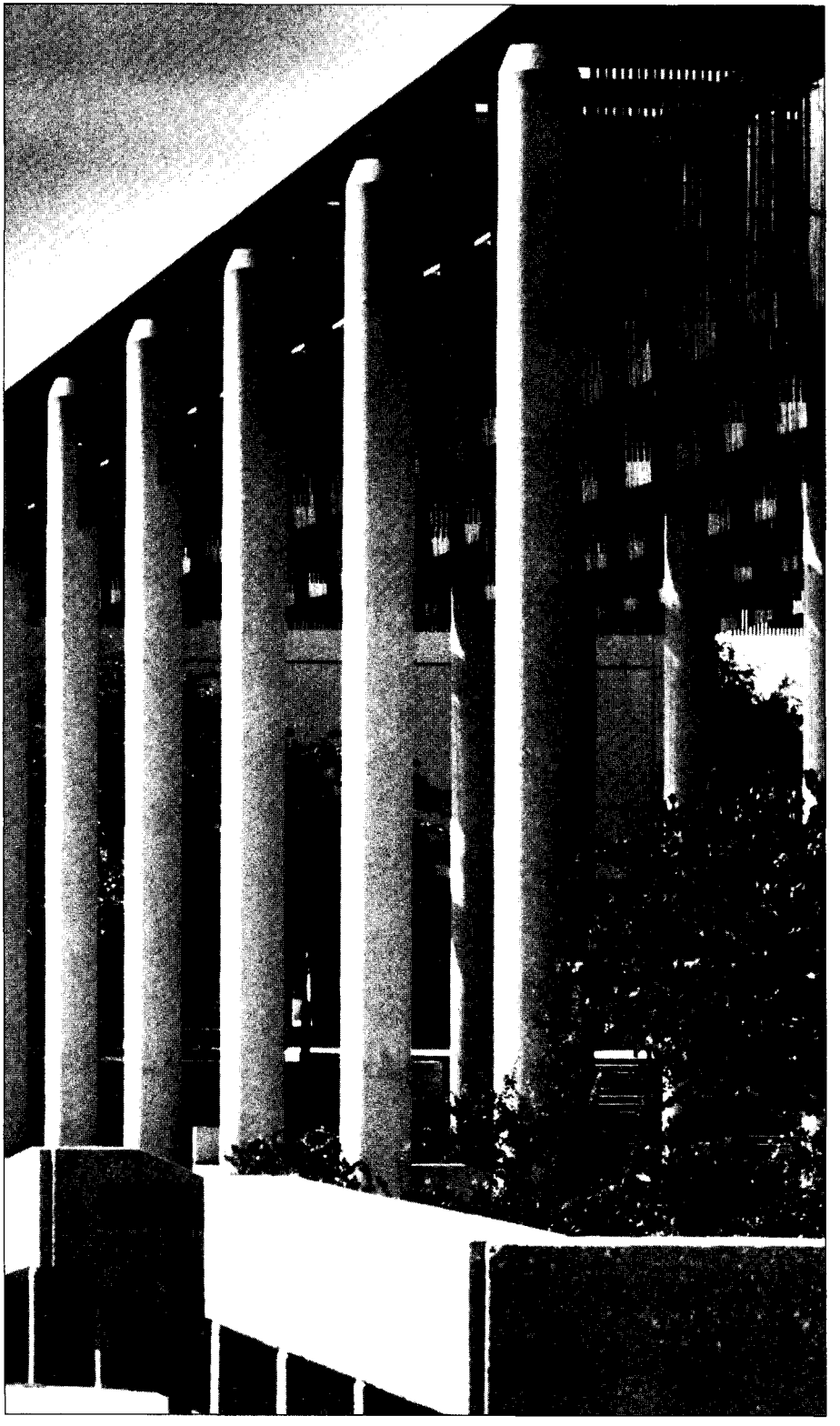
In the event of non-payment of debts owed to the University (or failure to meet admission requirements), any of the following actions may be taken:

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.

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, the UT San Antonio Handbook of Operating Procedures and in the UT San Antonio *Student Guide to UTSA.*

The Regents' *Rules*, Handbook of Operating Procedures and the *Student Guide to UTSA* have full force and effect as they concern all UT San Antonio students. The Regents' Rules and the Handbook of Operating Procedures 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 Guide to UTSA* 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 Office. They include Campus Activities Board, Student Representative Assembly, leadership development programs, Greek Life, a Student Activity Calendar and liaison with VIA Metropolitan Transit. An inner-campus message center for registered student organizations is located in the Student Activities Office 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 charges 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 Assistant Vice President for Student Life 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 a sleep deprivation, exposure to the elements, confinement in a small space, calisthenics, or other activity that subjects the student to any 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

A Health Information Form must be completed by the student and returned to the University Student Health Services.

The Student Health Services has mandatory current immunization for TD (tetanus-diphtheria), and MMR (measles, mumps and rubella) for all incoming students, or proof of immunity from the diseases. For International students, a T.B. skin test within six weeks of admission is required, and any student with positive results of the T.B. skin test must have proof of appropriate follow-up and treatment. All students are encouraged to receive the complete series of Hepatitis B vaccine.

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 Services 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 recognizes that Human Immunodeficiency Virus (HIV) and Hepatitis B Virus (HBV) are serious public health threats. The University has a policy on HIV and HBV infection which is available from the Student Health Services upon request.

An educational pamphlet about methods of transmission and prevention of HIV and HBV infections is available at the Student Health Services.

COUNSELING CENTER

The Counseling Center provides professional services by staff psychologists 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 vocational choice, assertion training, interpersonal communication skills, stress management, understanding sexual orientation and living with HIV.

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 to currently enrolled students.

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);
8. make satisfactory academic progress as required for financial aid eligibility to fulfill federal requirements; and
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, 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 Office of Student Financial Aid.

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.[12]

[12]Fees for services of the Career Planning and Placement Center are set forth in Section III of this catalog.

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 pursing 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 Advising, 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.[13]

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, baseball, cross country, indoor track, outdoor track, tennis and golf. Women's sports include: basketball, cross country, volleyball, tennis, and indoor track.

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[13]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.

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.

ON-CAMPUS ACCOMMODATIONS

On-campus housing facilities at UTSA include two complexes: a traditional residence hall and apartments. The traditional facility consists 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 lounge and an indoor swimming pool. The on-campus apartment facility, University Oaks, is a 210-unit apartment complex including efficiency, one-bedroom, two-bedroom and four-bedroom floor plans. Amenities include swimming pool, jacuzzi, volleyball, basketball and club house. For more information concerning on-campus housing, contact: The Office of Student Life, the University of Texas at San Antonio, San Antonio, Texas 78249 or call (210) 691-4720.

An off-campus housing directory is available in the Office of Student Life, (210) 691-4720 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

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 Guide to UTSA* 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.

OSIR provides a variety of support services. These services include providing general information about UTSA programs, services and events; providing academic advisement for students to undeclared majors and those admitted on a provisional basis; and providing assistance to groups of students such as San Antonio Educational Partnership students, freshmen on probation and freshmen minority students.

LEARNING ASSISTANCE CENTER

The Learning Assistance Center (LAC) provides a variety of learning resources for students at UTSA. Academic tutoring, mentoring and Study Skills classes are available through the LAC.

Group and individualized programs are provided in LAC to help students increase their proficiency in college-level mathematics, science, writing and foreign languages. Free tutoring is available in all major subject areas. As part of LAC's individualized instruction, lab resources available include: computer software for standardized tests, handouts and videotaped programs.

LAC coordinates the student-faculty/staff 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 and staff members who volunteer information in their areas of expertise.

The Study Skills 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

The Office of Disabled Student Services at the University of Texas at San Antonio coordinates support services and equipment for students with disabilities. The goal of the Office is to provide services which will allow qualified students to participate as fully as possible in university life.

A disability verification letter and an interview with the coordinator begins the process for services. Eligible students are encouraged to contact the Office prior to the beginning of the semester so their special needs can be discussed and appropriate arrangements can be made for services.

Some of the services and equipment available to eligible students include: registration assistance, notetaking, test accommodation, TDD, Amigos vehicles, Kurzweil Reader, Braille Printer, Visual Tech and Microcomputer with voice.

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

MINORITY AFFAIRS AND INTERNATIONAL STUDENTS

The Office of Minority Affairs and International Students was established in 1991 to provide minority and international students with the base knowledge and transitional assistance necessary to facilitate their matriculation into and graduation from the University. The Office focuses on creating a heightening University sensitivity to multiculturism and respect for individual differences, and career goal clarification, and providing students with transitional support services.

International students who are enrolled at UTSA should contact the Office of Minority Affairs and International Students for assistance.

THE UNIVERSITY CENTER

The University Center, 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 Campus Activities Board office, and the Student Activities Office. A Ticketmaster outlet is located at the Information Desk in the University Center.

STUDENT RIGHT-TO-KNOW AND CAMPUS SECURITY ACT

In compliance with the Student Right-to-Know and Campus Security Act (the Act) 20 U.S.C. Sections 1092(a), (e) and (f), as amended, the University of Texas at San Antonio collects specified information on campus crime statistics, campus security policies, and institutional completion or graduation rates.

Pursuant to the federal law, alleged victims of violent crime are entitled to know the results of campus student disciplinary proceedings concerning the alleged perpetrators.

UT San Antonio will make timely reports to the campus community on crimes considered to be a threat to students and employees and reported to campus police or local police agencies.

Every September UT San Antonio will publish and distribute an annual report of campus security policies and crime statistics to all current students and employees; provide copies of the report to applicants for enrollment or employment upon request; and submit a copy of the report to the Secretary of Education upon request. The annual campus crime statistics report will reference crimes which occur on property owned or controlled by UT San Antonio and may be supplemented by listing crimes which occur off of the campus in buildings or on property owned or controlled by student organizations that are registered by the institution when such statistics are available from local police departments.

Effective July 1, 1993, UT San Antonio will calculate and disclose institutional completion or graduation rates to all prospective and current students annually.

Effective September 1, 1993, UT San Antonio will publish in the annual security report, its policy regarding sex-related offenses, including sexual assault prevention programs, education programs to promote awareness of sex offenses, administrative disciplinary procedures and sanctions for offenders, and counseling and student services for victims.

Prior to the offer of athletically-related student aid to a potential student athlete, UT San Antonio will provide certain information on graduation rates specified by the Act to the prospective student and to the student's parents, guidance counselor and coach.

STUDENT GRIEVANCES

Grade grievance procedures are described in the section of this catalog on General Academic Regulations. Procedures for other grievances are described in the *Student Guide to UTSA*, which may be obtained in the Office of the Assistant Vice President for Student Life.

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 seletive 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.[14] Applicants should refer to individual degree descriptions for additional admission requirements.

All classifications of graduate admission require approval by the Provost and Vice President for Academic Affairs.[15] 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;[16]
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.[17]

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[14]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, 4.03.60 MS, UT San Antonio, San Antonio, Texas 78249. The Institution code for the University of Texas at San Antonio is 6919-5 for the GRE and 6919 for the GMAT.

[15]At the University of Texas at San Antonio the Provost and Vice President for Academic Affairs is the administrative officer responsible for graduate education.

[16]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.

[17]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.

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 Provost and Vice President for Academic Affairs. Conditions placed on admission may include:

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 Provost and 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 master's level 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;[18]

[18]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.

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[19] of the discipline offering the graduate course or courses desired.

Special Graduate Students are eligible to take any master's level 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 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.)

[19]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.

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. 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, $20.00 non-refundable application fee, and supporting credentials on file in the Office of Admissions and Registrar by the appropriate application deadine. The application deadlines for master's level applicants are: Fall, June 1; Spring, October 15; Summer, March 1. The deadline for doctoral applicants is January 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,[20]
3. be recommended for admission as a Transient Graduate Student by the authorized representative[21] of the discipline offering the graduate course or courses desired.

[20]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.

[21]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.

Transient Graduate Students may register for any master's level 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 upon 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 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 Advising, Certification and Placement 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 completion of degree requirements does not guarantee completion of Texas certification requirements. The student's Program Advisor and the Office of Teacher Advising, Certification and Placement 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 Advising, Certification and Placement 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 Advising, Certification and Placement in the Division of Education.

APPLICATION DATES

Students applying for admission as Master's 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, $20.00 non-refundable application fee, and all required supporting documents must be on file with the Office of Admissions and Registrar by the appropriate application deadline. The application deadlines for master's level applicants are: July 1 for the Fall Semester, December 1 for the Spring Semester, and May 1 for the Summer Sessions.[22] The deadline for doctoral applicants is February 1. Failure to meet these admission deadlines will defer admission until a subsequent term.

ADMISSION PROCEDURES

Each applicant for admission is responsible for ensuring that all required supporting documents (e.g., application form, $20.00 non-refundable application fee, test results, required transcripts, etc.) are on file in the Office of Admissions andRegistrar 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.

[22]Students enrolling in cooperative or joint programs between the University of Texas at San Antonio and other institutions must satisfy admission dates (and procedures) of the other institutions as well as those of UT San Antonio.

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 along with a $20.00 non-refundable application fee 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 of 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.

MANDATORY IMMUNIZATION

All incoming students are required to have current immunizations for TD (tetanus-diphtheria and MMR (measles, mumps and rubella). Proof of immunity must be presented to complete the admission process. Students unable to present such proof may receive immunizations at Student Health Services. For international students, a T.B. skin test within six weeks of admission is required. Any student with positive results of the T.B. skin test must have proof of appropriate follow-up and treatment. All students are encouraged to receive the complete series of Hepatitis B vaccine.

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. After the twelfth class day of any semester or after the fourth class day of any summer term (Census Date), students may not add a course except for extremely rare and extenuating circumstances as approved by the Dean. 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 prior to Census Date do not appear on the student's transcript. A student who drops courses after the Census Date and through the first nine weeks of the spring or fall semesters, the first three weeks of a five-week summer term, or the first six weeks of a ten-week summer term may drop courses and receive an automatic grade of "W." The change becomes official only after it is processed at the Office of Admissions and Registrar.

STUDENTS MAY NOT DROP AN INDIVIDUAL COURSE LATER THAN THE LAST DAY OF THE NINTH WEEK OF THE SPRING OR FALL SEMESTERS, THE FIRST THREE WEEKS OF A FIVE-WEEK SUMMER TERM, OR THE FIRST SIX WEEKS OF A TEN-WEEK 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 the spring or fall semesters, the first three weeks of a five-week summer term, or the first six weeks of a ten-week 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 Dean that a student be dropped from class when the instructor can show that unusual circumstances exist to warrant such action. If approved by the Dean, 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. Students not enrolled in courses at the University are not allowed to audit courses which require the use of the University computing system.

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 $25.00 per course and auditors who are not registered UT San Antonio students must pay an auditing fee of $50.00 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 fee. 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. **Students who register for a course and later want to change that course to an audit, must first drop the course in question prior to submitting the Request to Audit form.** 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 the spring or fall semesters, the first three weeks of a five-week summer term, or the first six weeks of a ten-week 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 Provost and 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 will then make a recommendation concerning reinstatement to the Provost and 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, 6, or 7 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

Courses designated "may be repeated for credit" in the catalog may be repeated with both credit hours and grade points earned being counted. *Otherwise, students at the graduate level may not elect to repeat courses for the purpose of raising a grade.*

However, when a course is older than six years, or upon the recommendation of the appropriate Graduate Studies Committee, the course may be repeated; in such cases, both grades in the course will appear on the transcript and both will be counted in the student's grade point average. Only credit hours for the repeated course may be counted toward the degree.

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.

Symbols	*Grade Points*
A	4
B	3
C	2
D	1
F	0
* CR	0
EP	0
W	0
IN	0
NR	0
RP	0
EX	0
* NC	0

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 postpone a final examination. See Postponement of Final Examination Procedures in this section of the catalog.

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

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

*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.

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 to 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, MUS 6913, Directed Research Courses (5971-3), and for Master's Thesis and Dissertation Courses. When the project, thesis, or dissertation is complete, the RP grades will be changed to letter grades 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 Office of Admissions and Registrar. Only one grade report is mailed; additional copies are not available. Grade reports may 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 Provost and 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 Provost 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 with 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 recommend that the student be dropped from the course. If the Dean approves the recommendation, he advises the Registrar, who in turn advises the instructor and student of the action taken.

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

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.

Classification changes requested during any semester will not be effective until the following 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. Documents submitted by students whose last attendance at UTSA was prior to Summer 1987 are no longer available for duplication.

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.

VERIFICATION OF ENROLLMENT

Students with outstanding student loans are encouraged to arrange that a verification of enrollment be sent to lending agencies each semester they enroll. Students who are receiving grants or scholarships should check with their providers to determine whether a verification of enrollment is required each semester they enroll at UT San Antonio. Students should make their request for verification in writing through the Office of Admissions and Registrar. All verifications are prepared and mailed after the Census Date; twelfth class day during the Fall and Spring semesters and fourth class day during the Summer semester.

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 Provost and 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 Provost and 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 Provost and Vice President for Academic Affairs.

LIMITATION ON UNDERGRADUATE CREDIT COUNTED TOWARD A MASTER'S DEGREE

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

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 Provost and 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 Provost and 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 Committee on Graduate Studies.

At the beginning of the student's Master 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 from the Office of the College Dean.
3. Secure approval of the draft by the Thesis Committee. This step is intended to signify that the thesis meets the required standards for content, expression, format, spelling and accuracy. Candidates are responsible for meeting the standards of those reading and approving the thesis.
4. Submit the approved draft to a typist. The approved draft of the thesis is then to be typed in acceptable form.
5. Submit the final copy of the thesis to the Thesis Director and Thesis Committee not later than 20 calendar days before final examinations of the term in which the degree is to be awarded. This copy of the thesis must be the original and, if acceptable, must be signed by the Thesis Director and members of the Thesis Committee. Prior to submission of the thesis to the Office of the Provost and Vice President for Academic Affairs through the Dean of the College for final acceptance, the Office of the Provost and Vice President for Academic Affairs must certify that it conforms to the format prescribed in the *Format for the Master's Thesis* and approve the method of duplication.
6. File two unbound copies, including the original, of the approval thesis with the Dean's Office at least 10 days prior to the last day of classes of the term in which the degree is to be awarded. The copies are transmitted by the College Dean to the Library, where they are bound. One copy is retained by the Library, and the other is returned to the College Dean. (A fee of $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 committe on Graduate Studies and the Provost and Vice President for Academic Affairs.

It should be further understood:

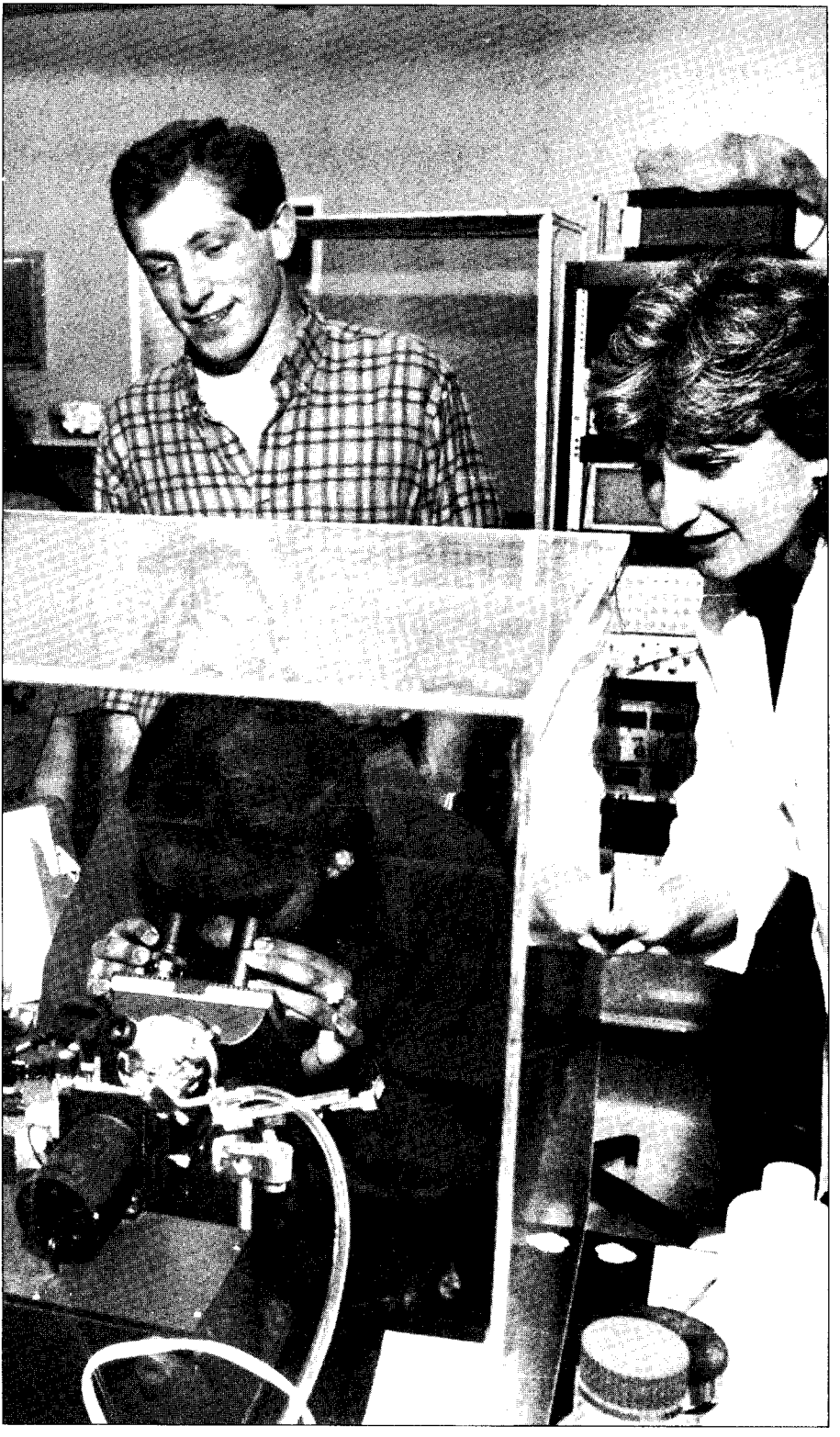
1) that the same courses cannot be applied toward two different degrees;
2) that credit applied to a previous degree at another institution which duplicates a portion of the program required under the second degree being sought at UT San Antonio does not reduce the number of hours required for that second degree.[23] 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 Provost and Vice President for Academic Affairs; an examination may be required as a condition for validating credit.

[23]The only exception is the M.F.A. Degree. Students should refer to "Courses Counted for Another Degree" in this section of the Catalog.

VIII
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 Office of the Provost and Vice President for Academic Affairs.[24]

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.

[24]At the University of Texas at San Antonio the Provost and Vice President for Academic Affairs is the administrative officer responsible for graduate education.

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.

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 Office of the Provost and 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 Office of the Provost and 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 Office of the Provost and Vice President for Academic Affairs for approval. Approval of the final Program of Study by the Office of the Provost and 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 Provost and 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 Office of the Provost and 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 Office of the Provost and 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 Office of the Provost and Vice President for Academic Affairs, at least two weeks in advance, of the date of the final oral examination.

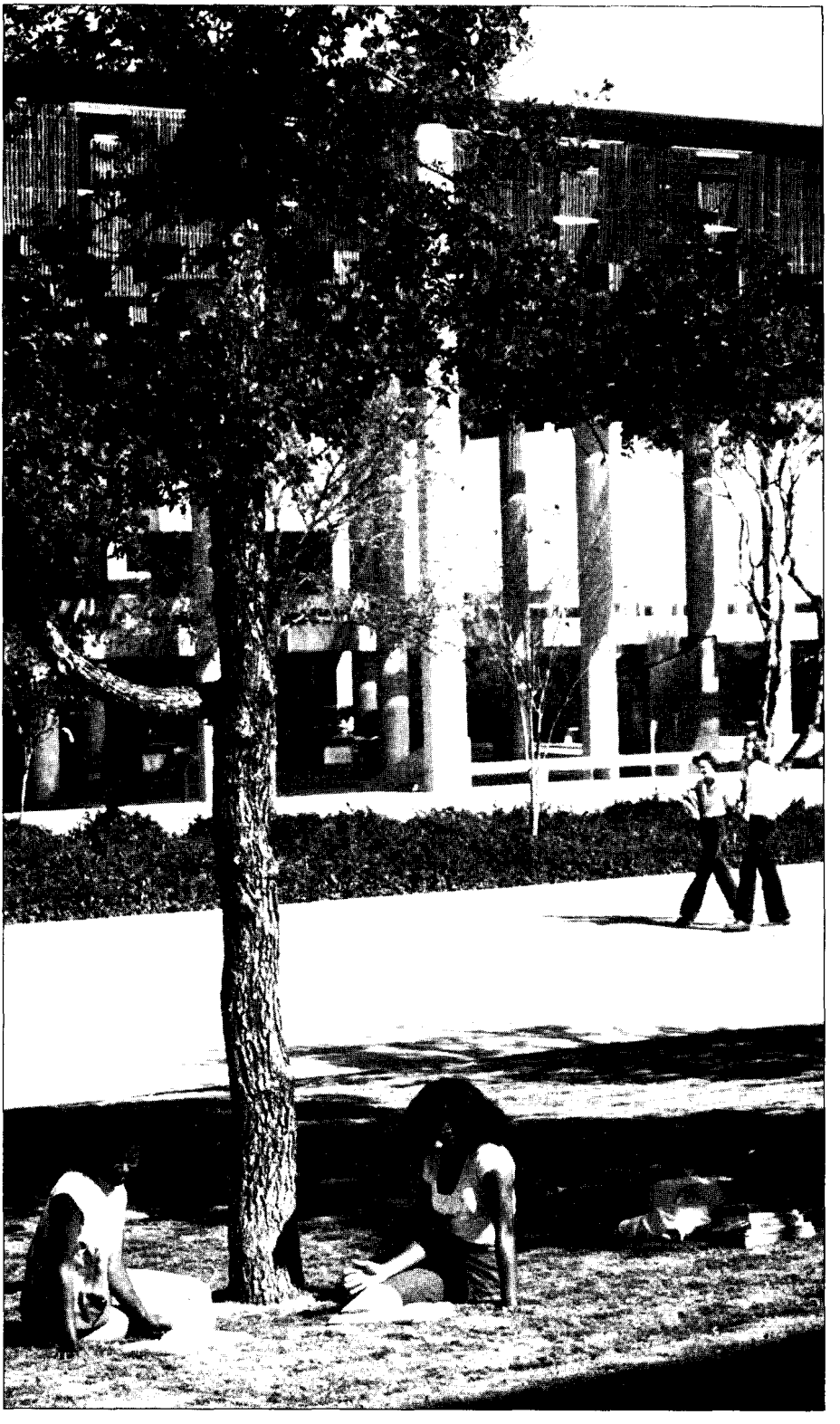
The examination covers the dissertation and the general field of the dissertation, and such other parts of the student's program as the committee may determine. If all members of the Dissertation Committee are satisfied that the student has 1) completed the work assigned by the committee; 2) passed all 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 Office of the Provost and 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 Provost and 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 Office of the Provost and 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 Provost and Vice President for Academic Affairs. In order to protect patent or other rights, the Office of the Provost and 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 1993-1995.[25] 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) Human Resource Management
(4) Information Systems
(5) Management Accounting
(6) Management of Technology
(7) Management Science
(8) Taxation

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

[25]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 Fine Arts Degree

Art

Master of Music Degree

Master of Science Degree

Biology

Biotechnology

Chemistry

Computer Science

Civil Engineering

Electrical Engineering

Environmental Sciences

Geology

Management of Technology
Concentration: Management of Technology

Mathematics
Concentrations:
(1) Mathematics
(2) Mathematics Education
(3) Statistics

Mechanical Engineering

Doctor of Philosophy Degree

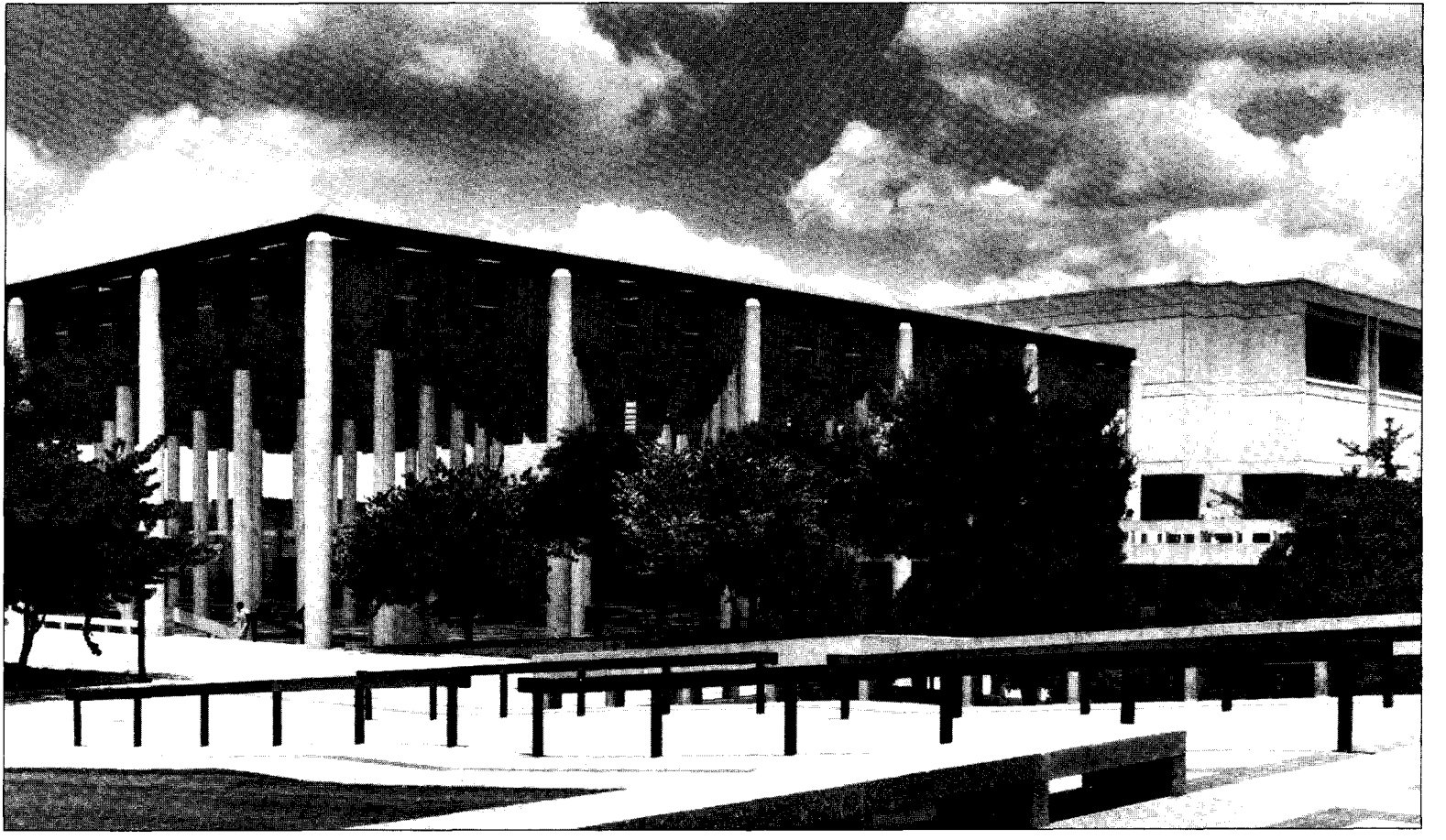
Biology

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.

X

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 may be required by the Admissions Subcommittee of the Committee on Graduate Studies 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 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)[26] with results submitted to the Office of Admissions and Registrar prior to being considered for admission.

3) Favorable recommendation by the M.B.A. Admissions Subcommittee of the Committee on Graduate Studies and approval by the Provost and Vice President for Academic Affairs.

Those who do not meet the admissions requirements may be considered on an individual basis by the M.B.A. Admissions Subcommittee of the Committee on Graduate Studies. The following courses constitute the M.B.A. common body of knowledge and are required for students who do not have credit for equivalent undergraduate courses. However, no credit for these courses may count toward degree requirements of the M.B.A.:

[26]Applications for the GMAT or information on the test may be obtained from GMAT, Educational Testing Service, P.O. Box 966R, Princeton, New Jersey 08540.

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

Degree Requirements. The M.B.A. Program 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 are required to complete successfully the following 21 semester hours.

ACC	5023	Accounting Analysis for Decision Making[27]
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[28]
MKT	5023	Marketing Management

Students seeking the M.B.A. degree may elect one of three options to complete the required 33 semester hours.

Option One: General M.B.A., Non-thesis Option. Under Option One students are required to complete the 21 semester hours above and 12 semester hours of electives. These electives may be taken either within the business divisions: Accounting and Information Systems, Finance and Economics, or Management and Marketing; including courses listed in the M.B.A. concentrations below, or in areas outside of business as approved by the Committee on Graduates Studies.

Option Two: General M.B.A., Thesis Option. Under Option Two students are required to complete the 21 semester hours above, six semester hours of electives as approved by the Committee on Graduate Studies, and six semester hours of Master's Thesis.

Option Three: Non-thesis M.B.A., Concentration Option. Under Option Three students are afforded the opportunity to concentrate in a particular area. Areas of concentration are:

Business Economics
Finance
Human Resources Management
Information Systems
Management of Technology
Management Science
Management Accounting
Taxation

[27]M.B.A. students who have satisfactorily completed three semester hours of cost/managerial accounting must complete a graduate accounting elective in lieu of ACC 5023, as approved by the Committee on Graduate Studies.

[28]MGT 5903 is taken in the semester of graduation (or in the previous semester with the consent of the graduate advisor). Students who earn a "B" or better in the course will satisfy the comprehensive examination requirement. A student who receives a grade of "C" may still satisfy the requirement by successfully passing a comprehensive examination as set out in this catalog.

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

ECO 5033 Economic Policy and Business Issues
ECO 6103 Economic and Business Forecasting
6 semester hours of graduate economics elective courses

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

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

MASTER OF BUSINESS ADMINISTRATION DEGREE WITH A CONCENTRATION IN HUMAN RESOURCES MANAGEMENT

(Coordinating Board approval pending)

This concentration is designed to offer the opportunity for qualified graduate students to study business administration while developing special expertise in human resources management. To achieve this end, students can focus their elective courses on developing managerial skills applicable to the management of the human resources function of organizations in a field that is continually changing due to technology, internationalization, and the social and legislative environment.

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

MGT 5643 Personnel Management Process
MGT 5813 Strategic Human Resources Management
and six (6) hours from the following:
ECO 6313 Managerial Labor Economics

MGT 5623 Industrial Relations
MGT 5723 Labor Relations in the Public Sector
MGT 5733 Employment Law and Legislation
MGT 6973 Special Problems

Additionally, a student may petition to the faculty coordinating this concentration to substitute one other College of Business graduate elective in lieu of the above 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, management of communication technologies, principles of data base management systems, and principles of end user computing.

All students choosing to concentrate in Information Systems must complete the 21 hours of M.B.A. core courses and 12 semester hours from the following:

IS 6103 Information Systems Design and Implementation
IS 6203 Data Communication and Network Management
IS 6403 Information Resource Management
IS 6503 Principles of Data Base Management
IS 6603 Seminar in Computer Security and Internal Control
IS 6703 Advanced Business Information Systems
IS 6803 Principles of End User Computing
IS 6973 Special Problems

MASTER OF BUSINESS ADMINISTRATION DEGREE WITH A CONCENTRATION IN MANAGEMENT ACCOUNTING

(Coordinating Board approval pending)

This concentration is designed to provide added preparation in management accounting subjects for graduate business students who do not have extensive prior course work in accounting.

All students choosing to concentrate in Management Accounting must complete the 21 hours of M.B.A. core courses, and, in addition, must successfully complete 12 semester hours as follows:

ACC 5033 Controllership
ACC 5073 Cost Management and Control
ACC 5123 Advanced Managerial Accounting Topics
ACC 5143 Budgeting and Forecasting

If any of the above courses are taken as part of the core requirement in lieu of ACC 5023, the student must successfully complete one additional graduate accounting course, as approved by the Committee on Graduate Studies.

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

MGT 5163 Management of Technology
MGT 5223 Management of Professional and Technical Personnel

and 6 hours from the following:

IS 6403 Information Resource Management
FIN 6113 Entrepreneurship and Venture Management
MGT 5213 Organizational Systems for Management of Technology and Innovation
MGT 5303 Decision Support Systems
MGT 5373 Simulation Analysis of Business Systems
MGT 5393 Production Management
MGT 5453 Management and Control of Quality
MGT 6933 Professional Report
MGT 6943 Management Internship
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 students 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 WITH A CONCENTRATION IN TAXATION

(Coordinating Board approval pending)

This concentration is designed to offer the opportunity for qualified graduate students to study business administration while developing special expertise in Taxation. To achieve this end, students can focus their elective courses on developing an understanding of tax problems and opportunities in business planning.

All students choosing to concentrate in Taxation must complete the 21 hours of M.B.A. core courses and, in addition, 12 semester hours as follows:

ACC 5013 Taxation of Business Entities
ACC 6043 Tax Research

and 6 hours from the following:

ACC 5063 Seminar in Tax Factors in Business Management
ACC 6053 Estate, Trust and Gift Taxation
ACC 6073 Corporate Taxation
ACC 6083 Tax Policy and Procedure
ACC 6113 Taxation of Partnerships and S Corporations
ACC 6123 Advanced Corporate Taxation
ACC 6143 Tax Planning
ACC 6163 International Taxation

Students who have previously completed 3 semester hours of corporate/partnership tax must successfully complete an additional tax elective, as approved by the Committee on Graduate Studies.

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[29]
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	6203	Seminar in International Accounting
BLW	5173	Legal Environment of International Business
ECO	5303	International Trade and Finance
FIN	5833	International Financial Management
MGT	5183	Global Management
MKT	5673	International Marketing

Foreign course work may be taken as:

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

[29]MGT 5903 is taken in the semester of graduation (or in the previous semester with the consent of the graduate advisor). 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 the requirement by successfully passing a comprehensive examination as set out in this catalog.

DIVISION OF ACCOUNTING AND INFORMATION SYSTEMS

MASTER OF PROFESSIONAL ACCOUNTING DEGREE

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 the 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 M.P.A. program must meet the following 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.[30]

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

Those who do not meet all of the admission requirements stated above may 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, the common body of knowledge, 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	3023	Intermediate Financial Accounting I
ACC	3033	Intermediate Financial Accounting II
ACC	3043	Federal Income Tax Accounting
ACC	3113	Accounting Information Systems
ACC	4013	Principles of Auditing
ACC	4153	Corporate and Partnership Taxation
ACC	5003	Financial Accounting Concepts
ACC	5023	Accounting Analysis for Decision Making
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

[30]Applications for the GMAT, or information on the test may be obtained from GMAT, Educational Testing Service, P.O. Box 966R, Princeton, New Jersey 08540.

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.

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 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 Tax Research
B. 6 semester hours of graduate electives in accounting or taxation
C. 9 semester hours of approved graduate electives of which no more than 6 hours can be in accounting or taxation[31]

TAXATION CONCENTRATION

All candidates choosing the Taxation concentration must complete:

A. 15 semester hours of required graduate tax courses:
   ACC 6043 Tax Research
   ACC 6053 Estate, Trust and Gift Taxation
   ACC 6073 Corporate Taxation
   ACC 6083 Tax Policy and Procedure
   ACC 6113 Taxation of Partnerships and S Corporations
B. 6 semester hours of graduate tax electives
C. 6 semester hours of graduate tax or accounting electives
D. 3 semester hours of graduate business electives

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.

[31]Approval of the M.P.A. Program Coordinator is required.

5013 Taxation of Business Entities
(3-0) 3 hours credit. Prerequisite: ACC 5003 or equivalent.
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. Students who have satisfactorily completed courses in individual and corporate/partnership income taxes may not enroll in this course for credit.

5023 Accounting Analysis for Decision Making
(3-0) 3 hours credit. Prerequisite: ACC 5003 or equivalent.
The study of accounting and its uses by management in the decision making process. M.B.A. students who have satisfactorily completed three semester hours of cost/managerial accounting must petition the Committee on Graduate Studies, Subcommittee on Candidacy and Program of Study, to substitute an accounting elective for this course.

5033 Controllership
(3-0) 3 hours credit. Prerequisite: ACC 5023 or 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 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.

5053 Nonprofit Accounting
(3-0) 3 hours credit. Prerequisite: ACC 3033 or 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.
A one-semester course in taxation for M.B.A. students who desire to recognize both tax problems and opportunities in common business situations. This course cannot be applied toward the M.P.A.

5073 Cost Management and Control
(3-0) 3 hours credit. Prerequisite: ACC 5023 or equivalent.
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 equivalent.
Case study course involving: (1) in-depth study of internal control; (2) operation auditing; (3) field studies in the San Antonio environment.

5123 Advanced Managerial Accounting Topics
(3-0) 3 hours credit. Prerequisite: ACC 5023 or 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 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 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 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 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 Tax Research
(3-0) 3 hours credit. Prerequisite: ACC 5013 or 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
(3-0) 3 hours credit. Prerequisite: ACC 5013 or the 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 Tax Policy and Procedure
(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 Taxation of Partnerships and 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 equivalents.
Corporate liquidations, divisions and reorganizations, and consolidated tax returns.

6143 Tax Planning
(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).

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.

6203 Seminar in International Accounting
(3-0) 3 hours credit. Prerequisite: 9 hours of accounting.
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. (Formerly ACC 6133. Credit cannot be earned for both ACC 6203 and ACC 6133.)

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
(1-0) 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
(3-0) 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 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 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 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 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 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.
A study of fluctuations in overall economic activity and their impact on optimal business and government economic decisions. Contemporary issues regarding the Federal Reserve's monetary policy and the

government's tax and spending policies are evaluated in static and dynamic settings in terms of implications for inflation, unemployment, the government budget deficit, and the trade deficit.

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 rational 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 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 equivalent.
Study of the role of government in the marketplace. Economic analysis of market structure and industry performance; motivations for and the effects of antitrust laws, economic regulations of private business, and public ownership of business.

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.

6553 Urban and Regional Economics
(3-0) 3 hours credit. Prerequisite: ECO 5003 or equivalent or consent of instructor.
Economics 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
(3-0) 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 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
(3-0) 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.

COURSE DESCRIPTIONS
FINANCE
(FIN)

5003 Business Finance
(3-0) 3 hours credit. Prerequisite: ACC 5003 or equivalent.
The framework, tools, and basic concepts of financial management are covered. Specific areas of inquiry include taxation, forecasting, working capital management, external financing, capital budgeting, and dividend policy.

5023 Financial Management
(3-0) 3 hours credit. Prerequisite: ECO 5003, FIN 5003, and ACC 5003 or equivalent. Completion of ACC 5023 or concurrent enrollment is recommended.
A study of concepts related to the financial management of the firm. Topics include asset management, risk analysis and management, financing alternatives and their costs, and financial securities considerations. 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 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 equivalent.
A study of investment analysis and decision making with regard to financial instruments traded in organized markets. Topics include descriptions and functions of markets; impact of market structure on market efficiency and security pricing; valuation of stocks, bonds and options; analysis of risk and return characteristics of investment alternatives; selection and management of bond and stock portfolios.

5713 Financial Institutions and Markets
(3-0) 3 hours credit. Prerequisite: FIN 5023 or 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 Banking and the Financial Services Industry
(3-0) 3 hours credit. Prerequisite: FIN 5023 or 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 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 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 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.

6213 Speculative Markets and Securities
(3-0) 3 hours credit. Prerequisite: FIN 5633 or equivalent.
An examination of derivative financial instruments such as options and futures and their potential role in controlling portfolio risk. Valuation and the risk and return characteristics of these instruments as well as trading and portfolio strategies will be developed.

6313 Modeling of Financial Decision Making
(3-0) 3 hours credit. Prerequisite: FIN 5023 or equivalent.
Computer models of financial problems commonly encountered in industry are developed. Topics include financial statement analysis, financial planning and forecasting, capital investment analysis, and financing decisions. Applications to investment analysis include security and options valuations, performance analysis, and portfolio management. Decision making under uncertainty is examined through various techniques including simulation.

6953 Independent Study
(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.
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 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 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

MASTER OF SCIENCE IN MANAGEMENT OF TECHNOLOGY

The Master of Science in Management of Technology (M.S.MOT) differs significantly from the M.B.A. and the M.B.A. with a Concentration in Management of Technology. The M.S.MOT has a different set of required core courses and focuses on management issues and skills required to help bring and manage advances in technology into the marketplace in the form of products and services. The courses are from both the College of Business and the College of Sciences and Engineering.

Program Admission Requirements. For admission to the M.S.MOT program, applicants must have an undergraduate or graduate degree in a scientific, engineering or mathematical discipline from an accredited university or college, meet university-wide graduate admission requirements and the following additional 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) or equivalent score on other relevant tests with results submitted to the Office of Admissions and Registrar prior to being considered for admission.

3) Favorable recommendation by the M.S.MOT Admissions Subcommittee and approval by the Provost and Vice President for Academic Affairs.

Those who do not meet the admissions requirements may be considered on an individual basis by the M.S.MOT Admissions Subcommittee.

The following courses constitute the common body of knowledge and are required for students with limited exposure to undergraduate business courses; however, the number of common body of knowledge courses to be taken will be determined on a case by case basis depending on background and undergraduate/graduate courses already completed. No credit for these courses may count toward degree requirements for the Master of Science in Management of Technology:

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

Degree Requirements. The M.S.MOT Program requires 30 semester hours of work beyond any hours acquired in the common body of knowledge courses.

All candidates for the degree of Master of Science in Management of Technology are required to successfully complete the following 18 hours:

EGR	5613	New and Emerging Technologies
EGR	5623	Issues in Engineering Management

MGT 5163 Management of Technology
MGT 5203 Managerial Strategy and Systems
MGT 5223 Management of Professional and Technical Personnel
MKT 5053 Marketing Technological Innovation

and nine (9) hours from the following:

EGR 5113 Advanced Engineering Economic Analysis
EGR 5213 Topics in Systems Modeling
CE 5413 Topics in Civil Engineering
ME 5213 Topics in Mechanical Engineering
MGT 5023 Decision Analysis and Production Management
MGT 5213 Organizational Systems for Management of Technology and Innovation
MGT 5303 Decision Support Systems
MGT 5373 Simulation Analysis of Business Systems
MGT 5393 Production Management
MGT 5453 Management and Control of Quality
MGT 6943 Management Internship

All candidates for the degree of Master of Science in Management of Technology must complete a Professional Report (MGT 6933 Professional Report) under the guidance of a graduate faculty advisor and must pass a comprehensive examination administered by the M.S.MOT Candidacy and Program of Study subcommittee.

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 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 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 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.

5093 Leadership
(3-0) 3 hours credit. Prerequisite: MGT 5043 or consent of instructor.
This is an advanced course in organizational behavior which examines traditional and contemporary perspectives on leadership and the group processes toward which leadership is directed. The course includes applications of leadership theory to contemporary organizational problems.

5133 Organizational Decision Making
(3-0) 3 hours credit. Prerequisite: MGT 5013 and MGT 5043 or consent of instructor.
This is an advanced course in organizational behavior focusing on the behavioral elements of the decision making process. Drawing on theory and research in several disciplines the course examines individual decision making models, group decision making models, and organizational decision making models. Emphasis on prescriptive models for effective decision making.

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.

5203 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.

5213 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.

5223 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.

5303 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.

5323 Statistical Methods for Business Analysis
(3-0) 3 hours of 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.

5333 Small Business Development and Operation
(3-0) 3 hours credit. Prerequisite: MGT 5043 or consent of 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.

5363 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.

5373 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.

5383 Microcomputer Applications in Business
(3-0) 3 hours credit. Prerequisite: MGT 5013 or is 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.

5393 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 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 various employment relations systems in organizations. Consideration will be given to various discipline, grievance, and appeals systems in both union and non-union organizations. The roles of management, unions, and government in collective bargaining for both labor and administrative areas will be studied.

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 sciences 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. Consideration 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.

5733 Employment Law and Legislation
(3-0) 3 hours credit. Prerequisite: MGT 5043 or consent of instructor. An analysis of the various laws and administrative rulings impacting on the employment process of organizations. Focus will be on the law as it impacts on various administrative decisions in recruiting, selection, training, promoting, and other employment areas, including benefits and labor relations.

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 organizational performance in today's dynamic environment. May be repeated for credit when topics vary.

5813 Strategic Human Resources Management
(3-0) 3 hours credit. Prerequisite: MGT 5643 and consent of instructor. An analysis of the overall role and function of human resources management with respect to an organization's overall strategic goals. Emphasis will be placed on the ethical and public policy trends in the field as well as current trends in the area.

5903 Strategic Management and Policy
(3-0) 3 hours credit. Prerequisite: MGT 5903 is taken in the semester of graduation (or, in the previous semester with the consent of the graduate advisor). Students who earn a grade of "B" or better in this 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.
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 written 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
(3-0) 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
(1-0) 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
(3-0) 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 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: ACC 5003, ECO 5003, FIN 5003 and MKT 5003 or equivalent. Completion of ACC 5023 or concurrent enrollment is recommended.
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 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 Innovation
(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 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 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 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 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
(3-0) 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
(3-0) 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
(3-0) 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 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
(3-0) 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.

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 requirements regardless of the number of semesters a student enrolls in the course.) 3 hours

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 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.

6843 Project in Art History
3 hours credit. Prerequisite: Permission of the Graduate Advisor and Project Director.
A professional project in Art History. Projects include but are not limited to: Historic preservation; publications; exhibition curation. 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 project is in progress.

6913 Seminar in Art History
(3-0) 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 a faculty member. For students needing specialized work

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.

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3 hours credit. Prerequisite: Permission of the Graduate Advisor and Project Director.
A professional project in Art History. Projects include but are not limited to: Historic preservation; publications; exhibition curation. 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 project is in progress.

6913 Seminar in Art History
(3-0) 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 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 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 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 (must be taken in the student's first semester)
   ENG 5053 Topics in Literary Genres (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 Nineteenth-Century British Literature
   ENG 5613 Nineteenth-Century American Literature
   ENG 5733 Twentieth-Century British Literature
   OR
   ENG 5743 Twentieth-Century American Literature
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 5193 Contemporary Literary Theory
      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 Composition
   ENG 5133 Development of Rhetoric and Composition
   ENG 5163 Topics in Composition
   ENG 5183 Theory and Practice of Teaching Composition
d. Creative Writing
   ENG 5143 Creative Writing: Fiction
   ENG 5153 Creative Writing: Poetry

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.

ENG 5013 must be taken in the student's first semester.

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 as soon as they have completed 12 hours of course work.

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. Must be taken in the student's first semester.

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, focusing on the major texts and statements by such figures as Plato, Aristotle, Renaissance poets, the Romantics, Victorians, and moderns.

5133 Development of Rhetoric and Composition
(3-0) 3 hours credit.
Survey of the development of rhetorical theory, with emphasis on how present composition theory and practice reflect earlier traditions.

5143 Creative Writing: Fiction
(3-0) 3 hours credit. Prerequisites: 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.

5161 Practicum in Rhetoric
(1-0) 1 credit hour. Prerequisite: Consent of instructor.
Study of the rhetorical and linguistic foundations of written English. May be taken twice for credit.

5163 Topics in Composition
(3-0) 3 hours credit.
Consideration of individual topics in composition. Topics may be drawn from areas such as linguistic theory, cognitive theory, rhetorical theory, and composition research. May be repeated for credit when topics vary, but not more than 6 hours will apply to the Master's degree.

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.
Introduction to current research in composition and applications to the writing process.

5193 Contemporary Literary Theory
(3-0) 3 hours credit.
Study of recent developments and movements in literary theory, such as structuralism, reader-response theory, deconstruction, feminism, historicism, and cultural studies.

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 Nineteenth-Century British 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 Literature
(3-0) 3 hours credit.
Critical survey of British poetry, fiction, and drama from 1900 to present; emphasis on writers such as Conrad, Yeats, Joyce, Woolf, Lawrence, Beckett, and Lessing.

5743 Twentieth-Century American Literature
(3-0) 3 hours credit.
Critical survey of American poetry, fiction, and drama from 1900 to the present; emphasis on writers such as Eliot, Faulkner, O'Neill, Hemingway, Miller, Lowell, and Morrison.

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
(3-0) 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.

DIVISION OF FOREIGN LANGUAGES

MASTER OF ARTS DEGREE IN SPANISH

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. Elective courses in Foreign Languages allow students desiring an instruction emphasis to gain expertise in approaches to instructing and testing foreign languages. 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. 12 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
3. 6 hours from:
   SPN 5103 Spanish Film
   SPN 5113 Latin American Film
   SPN 5463 Spanish Civilization
   SPN 5473 Spanish-American Civilization
   SPN 5483 Studies in Hispanic Culture
   SPN 5953 A Functional-Notional Approach to Contemporary Hispanic Culture

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

3. 6 hours from:
   SPN 5633 Spanish Golden Age Literature
   SPN 5643 Don Quijote
   SPN 5703 Modern Spanish Literature
   SPN 5773 Contemporary Spanish-American Literature
   SPN 5803 Mexican-American Literature
   SPN 5813 Studies in Hispanic Literature

Spanish Language:

1. SPN 5843 History of the Spanish Language
2. SPN 5863 Spanish Phonetics and Phonology
3. 6 hours from:
   SPN 5853 Spanish of the Southwest
   SPN 5883 Spanish Morphology and Syntax
   SPN 5893 Hispanic Dialectology
   SPN 5903 Studies in Hispanic Linguistics

B. 6 hours from the two concentrations not chosen (3 hours each).

C. 12 semester hours of electives in SPN, FL, LNG or as approved by the Division Graduate Advisor of Record.

Students desiring an instruction emphasis should take 3 of the following courses among their electives.

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
FL	5033	Foreign Language and Intercultural Communication

In addition to the above options electives may comprise:

SPN	6813	Seminar in Hispanic Studies
LNG	5013	Sociolinguistics
LNG	5153	Topics in Contemporary Linguistics

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 coursework 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 examination is designed to test the student's knowledge in his/her Concentration area 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)

5103 Spanish Film
(3-0) 3 hours credit.
Spanish society, history, and culture as interpreted by representative directors.

5113 Latin American Film
(3-0) 3 hours credit.
Latin American society, history, and culture as interpreted by representative directors.

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 from prehistory (the Caves of Altamira) to the present.

5473 Spanish-American Civilization
(3-0) 3 hours credit.
A study of the social, political, and cultural history of the Spanish-American countries from the discovery and conquest through colonization and Independence to the present.

5483 Studies in Hispanic Culture
(3-0) 3 hours credit.
Studies of different facets of Hispanic culture, not normally available as part of regular course offerings. 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.
Study in selected areas of Hispanic Literature not normally available as part of regular course offerings. 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.

5853 Spanish of the Southwest
(3-0) 3 hours credit.
An in-depth study of the popular variety of Spanish spoken by Mexican-Americans in the U.S. Southwest, including San Antonio. Complementary descriptive and sociolinguistic approaches are incorporated.

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 variation in Peninsular, Latin American, and U.S. Spanish, considering terms of phonology, grammar, and lexicon of popular, spoken dialects. 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 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, 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 before taking courses or during the first semester as a degree-seeking student. 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 instructor.

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 Systems 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, violin, viola, 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.

5791 Opera Workshop
(0-3) 1 hour credit. 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.

6233 Twentieth Century Analytical Techniques
(3-0) 3 hours credit. 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.

6313 The Use of Microcomputers in Music Education
(3-0) 3 hours credit. 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 the music instruction. Currently available software and hardware applicable to music instruction will be examined.

6423 Seminar in Music Education
(3-0) 3 hours credit.
Studies in the philosophy, historical background, and current trends in music education.

6543 Diction for Singers
(3-0) 3 hours credit. 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.

6913 Project in Music Education
(3-0) 3 hours credit. 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.

6941 Recital
(1-0) 1 hour credit. 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.

6951-3 Independent Study
1-3 hours credit. 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.

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
1-3 hours credit. 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 the 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.

COLLEGE OF SCIENCES AND ENGINEERING
DIVISION OF EARTH AND PHYSICAL SCIENCES
MASTER OF SCIENCE DEGREE IN CHEMISTRY

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, 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 that successful completion of a minimum of 34 semester hours. The following plan must be followed by all candidates:

A. Required Courses (25 semester hours)

CHE	5113	Advanced Organic Chemistry I	(3 semester hours)
CHE	5133	Advanced Inorganic Chemistry	(3 semester hours)
CHE	5163	Advanced Instrumental Analysis	(3 semester hours)
CHE	5192	Advanced Spectral Measurement and Interpretation I	(2 semester hours)

CHE	5202	Advanced Spectral Measurement and Interpretation II	(2 semester hours)
CHE	5213	Chemical Thermodynamics	(3 semester hours)
CHE	5271	Graduate Seminar in Chemistry	(3 semester hours)
CHE	6983	Master's Thesis, including an oral defense of the written thesis.	(6 semester hours)

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 of electives 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 37 hour degree program.

A. Required Courses (25 semester hours)

CHE	5113	Advanced Organic Chemistry I	(3 semester hours)
CHE	5133	Advanced Inorganic Chemistry	(3 semester hours)
CHE	5163	Advanced Instrumental Analysis	(3 semester hours)
CHE	5192	Advanced Spectral Measurement and Interpretation I	(2 semester hours)
CHE	5202	Advanced Spectral Measurement and Interpretation II	(2 semester hours)
CHE	5213	Chemical Thermodynamics	(3 semester hours)
CHE	5271	Graduate Seminar in Chemistry	(3 semester hours)
CHE	5973	Directed Research	(6 semester hours)

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 in two distinctly different areas, 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.

D. Students must pass a final oral Comprehensive Examination, scheduled during the student's last semester of work, for completion of the degree program.

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; 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 spectroscopies; mass spectrometry, chromatography, and electrochemical techniques.

5192 **Advanced Spectral Measurement and Interpretation I**
(0-6) 2 hours credit. Prerequisites: CHE 5163, CHE 3243 and CHE 4373 or the equivalent; or consent of the instructor. Corequisite: CHE 5973, CHE 6951-3 or CHE 6983. Enrollment will normally be limited to M.S. degree-seeking students.
A regularly scheduled topics course including experimentation, data analysis, and problem solving using modern chemical instrumentation. In CHE 5192 and CHE 5202, students must demonstrate basic competency in a minimum of three of the following: FT-NMR, FT-IR, UV-vis and fluorescence, mass spectrometry, computer-based chemical modeling, gas and liquid chromatography, and spectral data analysis. May be repeated for credit with the approval of the Graduate Advisor of Record when the topics vary, although no more than 2 semester hours of credit can be applied to the Master's degree.

5202 Advanced Spectral Measurement and Interpretation II
(0-6) 2 hours credit. Prerequisites: CHE 5163, CHE 3243 and CHE 4373 or the equivalent; or the consent of the instructor. Corequisite: CHE 5973, CHE 6951-3 or CHE 6983. Enrollment will normally be limited to M.S. degree seeking students.
A complement to CHE 5192. A regularly scheduled topics course including experimentation, data analysis, and problem solving using modern chemical instrumentation. In CHE 5192 and CHE 5202, students must demonstrate basic competency in a minimum of three of the following: FT-NMR, FT-IR, UV-vis and fluorescence, mass spectrometry, computer-based chemical modeling, gas and liquid chromatography, and spectral data analysis. May be repeated for credit with the approval of the Graduate Advisor of Record when the topics vary, although no more than 2 semester hours of credit can be applied to the Master's degree.

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 and the student's Graduate Advisor of Record.
The directed research course may involve either a laboratory or a theoretical problem. Normally a written report is required. 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 snython 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, Bio-organic 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, bio-organic 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. Prerequisite: 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 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 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), (2) Environmental Geology, and (3) Applied Geology.

Qualified students are encouraged to apply for teaching and/or research assistantships and fellowships. Requests should be addressed 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:

GEO 5991 Graduate Seminar in Geology (2 hours)
GEO 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.

1. Water Resources Emphasis (Hydrogeology)

a. 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

b. 13 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.

2. Environmental Geology Emphasis

a. 6 semester hours in:
GEO 5203 Advanced Environmental Geology
GEO 5303 Advanced Geomorphology

b. 10 semester hours minimum selected from the graduate course offerings in geology.

c. 9 semester hours minimum selected from the graduate course offerings in the College of Sciences and Engineering.

3. 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

The Non-Thesis Option in Geology applies only to the (1) Water Resources (Hydrogeology) and (2) Environmental Geology Emphasis.

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:

GEO 5991 Graduate Seminar in Geology (2 hours)
GEO 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.

1. **Water Resources Emphasis (Hydrogeology)**

a. 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

b. 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.

2. **Environmental Geology Emphasis**

a. 6 semester hours minimum to include the following courses:
GEO 5203 Advanced Environmental Geology
GEO 5303 Advanced Geomorphology

b. 10 semester hours minimum selected from the graduate course offerings in Geology.

c. 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.

B. 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 of Record.

C. 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. GEO 6961 Comprehensive Examination (1 hour), does not contribute towards the 39 semester hours minimum.

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 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.
Origin and evolution of magmas. Origin and development of metamorphic grade, facies, and textures. Detailed study of igneous and metamorphic rock suites. Field trips required.

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 a laboratory, field based or 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.
Topical issues chosen by faculty and 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.

6304 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. (Formerly GEO 6303. Credit cannot be earned for both GEO 6304 and GEO 6303.)

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: Completion of at least 30 semester hours of course work and 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 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 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 (12 semester hours):

ENV 5003 Environmental Regulation
ENV 5533 Environment and Systems
ENV 6603 Environmental Systems Analysis
ENV 6653 Environmental Planning and Management

B. Elective Courses (24 semester hours):

Option 1: 18-24 semester hours of elective graduate coursework in environmental sciences, chosen in consultation with the student's advisor. Up to 6 of the elective hours may be taken in disciplines outside environmental sciences. Prior approval of the Graduate Advisor of Record is required. Such outside coursework must clearly support the student's program of study.

Option 2: 12 semester hours of graduate course work in environmental sciences, and 12 semester hours of graduate course work in a single related discipline in which the required prerequisites have been satisfied. Such outside course work must support an area of specialization within environmental sciences, such as biology, chemistry, civil engineering, or geology. Prior approval of the Graduate Advisor of Record is required.

Students who elect to write a Master's Thesis are required to enroll in ENV 6983 each semester in which the thesis is in progress, but no more than 6 semester hours will apply to the degree.

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 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, classicaloptimization, 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, economics, 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).

6963-6 Internship
3 to 6 hours credit.
An opportunity will be provided for the students to work in a setting which permits them to apply the knowledge learned in the formal instruction part of the program. May be repeated for credit, but not more than 6 hours 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 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 study in signal processing, digital systems, communications, instrumentation, and control systems. Mechanical Engineering includes programs of study in thermal and fluid systems, mechanical systems and design, solid mechanics and materials.

A limited number of assistantships and fellowships are available to qualified students. All financial assistance is awarded on a competitive basis.

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)

5103 Advanced Topics in Engineering Analysis
(3-0) 3 hours credit. Prerequisite: MAT 3253 or equivalent, or consent of instructor.
A comprehensive treatment of advanced methods of applied mathematics needed for the study of advanced courses in engineering. May be repeated for credit as topics vary.

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 Systems 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, linear and dynamic programming, decision analysis, and statistical quality control. May be repeated for credit as topics vary.
Topic 1: Applied Operations Research. Application of operations research methods to practical engineering problems.
Topic 2: Engineering Systems Modeling. Modeling of modern engineering systems for operational and management control.

Topic 3: Engineering Quality Control. Application of modern statistical quality control methods to process simulation and manufacturing analysis.

5303 Continuum Mechanics
(3-0) 3 hours credit. Prerequisite: EGR 2503 or equivalent, or consent of instructor.
Topic 1: Continuum Mechanics. Equations of Newtonian and non-Newtonian fluid motion, kinematics, conservation laws, linear and nonlinear constitutive equations; viscoelastic fluids; mechanics of suspensions; surface flow; viscometric flows.
Topic 2: Advanced Continuum Mechanics. The essentials of finite deformation theory of solids and fluids to describe mechanical behavior of biological tissue.

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. May be repeated for credit as topics vary.
Topic 1: Advanced Strength of Materials. Analysis of stress and strain, two-dimensional problems in elasticity, failure theory, bending, torsion, numerical methods of symmetrically loaded members, and energy methods.
Topic 2: Elasticity. Equilibrium, compatibility equations, strain energy methods, torsion of noncircular sections, flexure and axially symmetric problems.
Topic 3: Methods of Experimental Mechanics. The application of electronic transducers, laser interferometry, and optical techniques to measure response of mechanical systems.

Topic 4: Theory of Plates and Shells. Static flexural response of thin, elastic, rectangular, and circular plates; exact (series) and approximate (Ritz) solutions, circular cylindrical shells, axisymmetric and non-axisymmetric membrane theory, shells of arbitrary shape.

5613 New and Emerging Technologies
(3-0) 3 hours credit.
Entrepreneurial and managerial perspectives on development and consequences of technological innovations in product and manufacturing process. Interfaces between R&D function and marketing and production. Planning and implementing new venture structures for business development and diversification. Anticipating environmental and societal impacts of technologies. Cases and examples drawn from biotechnology, communication, and construction.

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 applicants 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:

Thesis Option:	Semester Hours
Designated Electives (approved in consultation with Chairman of Student's Advisory Committee)	9
Free Electives chosen from Graduate Engineering Courses	15
Thesis	6
Total Credit Hours Required	30

Non-Thesis Option:	Semester Hours
Designated Electives (approved in consultation with Chairman of Student's Advisory Committee)	9
Free Electives chosen from Graduate Engineering Courses	21
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.

5233 Topics in Water Quality Control
(3-0) 3 hours credit. Prerequisites: CE 3633 or equivalent.
May be repeated for credit as topics vary.
Topic 1: Physical and Chemical Treatment Operations. Physical and chemical unit operations for water and wastewater treatment with emphasis on treatment process combinations for drinking water supply.
Topic 2: Biological Treatment Operations. Application of principals of biological processes, fluid dynamics, and process engineering to define and solve water and wastewater treatment problems.
Topic 3: Stream Sanitation. Biological impact of pollution on the ecosystem of rivers and streams.
Topic 4: Groundwater Pollution Control. Control approach and transport mechanisms of pollutants in different types of aquifers.

5243 Topics in Environmental Monitoring and Analysis
(2-3) 3 hours credit. Prerequisites: CHE 1303 and CE 3633.
May be repeated for credit as topics vary.
Topic 1: Methods of Environmental Monitoring and Measurement. Functions, terminology, method development, and QA/QC for drinking, ground, and waster water analysis, soil analysis, and air sampling and analysis, including EPA methods and industrial application.
Topic 2: Unit Process for Water Quality Control. Laboratory and pilot plant studies of physical, chemical, and biological processes for the treatment of wastewaters and sludges.

5273 Hazardous Material Control
(3-0) 3 hours credit. Prerequisite: CE 3663.
Analysis of advanced or specialized hazardous waste treatment methods. Emphasis on physical, chemical, and biological processes in treatment of hazardous wastes and processing of treatment residuals. Definitions of problems and objectives, and evaluation of alternatives for special cases. Development of concepts for preliminary process design. Design-oriented class project and field trips.

5313 Topics in Water Resource Engineering
(3-0) 3 hours credit. Prerequisite: CE 3713 or equivalent.
May be repeated for credit as topics vary.
Topic 1: Water Resources Systems Engineering. Application of engineering analysis techniques to the design of water systems.
Topic 2: Water Resources Planning and Modelling. Quantity and quality planning of water, and alternative modelling for the attainment of water resources goals.
Topic 3: Hydrogeochemical Cycles. Study of the processes and mechanisms responsible for the natural circulation of major, minor, and trace elements through the hydrosphere, atmosphere, lithosphere, and biosphere.
Topic 4: Advanced Hydraulic Engineering. Open channel flow, sediment transport and hydraulics for special structures.
Topic 5: Groundwater Hydrology. Flow through porous media; hydrologic models for different aquifers.

5323 Topics in Construction Management
(3-0) 3 hours credit. Prerequisite: Graduate standing.
May be repeated for credit as topics vary.
Topic 1: Large Project Management. Large engineering project implementation and optimization of manpower, schedule, and material.
Topic 2: Urban Project Management. Application of engineering fundamentals and analysis to urban construction activities.
Topic 3: Site Cleanup and Remediation. Methods of cleanup and remediation of industrial and hazardous waste sites.
Topic 4: Forensic Engineering. Construction responsibilities, risks, and quality control.

5413 Topics in Civil Engineering
(3-0) 3 hours credit. Prerequisite: Graduate standing and consent of the instructor. May be repeated for credit as topics vary.
Topic 1: CE Project Analysis. Planning, implementation, control and evaluation methods for special CE projects.
Topic 2: Advanced CE Technology Transfer. CE technology development and transfer for real-world problems.
Topic 3: Advanced CE Design. Project-oriented design course involving advanced CE knowledge and other engineering know-how.
Topic 4: Topics in Geotechnical Engineering. Advanced soil mechanics, advanced geotechnical engineering, soil mechanics theory, advanced soil testing, soil dynamics and earthquake engineering.

5513 Topics in Transportation Engineering
(3-0) 3 hours credit. Prerequisite: Graduate standing. May be repeated for credit as topics vary.
Topic 1: Transportation Systems Design. Multimode transportation networks and systems design methods.
Topic 2: Urban Transit. Planning and implementation of mass transit systems, airports, streets and highways to satisfy the needs of urban residents and urban-based businesses.
Topic 3: Urban Transportation Engineering. Traffic studies, scheduling and routing, design and construction; economic and environmental impacts.

5813 Risk and Decision Analysis in Civil Engineering
(3-0) 3 hours credit. Prerequisite: EGR 3713.
Perspective of risk assessments; risk estimation, event tree analysis, fault tree analysis, risk classifications, risk acceptability, probabilistic modeling, anatomy of risks with revealed preference method, decisions under uncertainties, utility theory, multiattribute utility functions, and case studies.

5923 Topics in Air Pollution Control
(3-0) 3 hours credit. Prerequisite: CE 4643 or consent of instructor. May be repeated for credit as topics vary.
Topic 1: Air Quality Monitoring and Analysis. Measurement and monitoring methods, including various laboratory and process development procedures.
Topic 2: Air Pollution Control Design. Design principles for pollution control equipment for both gaseous and particulate emissions.
Topic 3: Air Resources. Various types and characteristics of industrial air emissions; survey and control approach.

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 satisfactory score, as specified by the Graduate Studies Committee for Electrical Engineering, on the GRE General Aptitude test.

2. A bachelor's degree in electrical 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 electrical engineering may be required to make up the deficiencies in the undergraduate electrical 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 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 Systems and Control
EE	5153	Random Signals and Noise
EE	5163	Digital Signal Processing
EE	5183	Foundations of Communication Theory

The requirements for each of these options, with minimum credit hour requirements and their distribution are as follows:

Thesis Option:	Semester Hours
Core Courses (Any 3)	9
Additional Graduate Electrical Engineering Courses	9[32]
Courses from outside Electrical Engineering	6[32]
Thesis	6
Minimum Total Credit Hours Required	30

Non-thesis Option:	
Semester Hours	
Core Courses (Any 4)	12
Additional Graduate Electrical Engineering Courses	15[32,33]
Courses from outside Electrical Engineering	6[32]
Minimum Total Credit Hours Required	33

[32]Chosen with approval of the Electrical Engineering Graduate Studies Committee.

[33]EE 5973, Special Project, may be chosen for one of these courses.

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 Systems and Control
(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.

5183 Foundations of Communication Theory
(3-0) 3 hours credit. Prerequisite: Graduate standing.
Information theoretic limits on signal transmission, signal detection in known noise, maximum likelihood estimation, correlator and matched filter receivers, digital modulations schemes, bit and symbol error probability.

5213 Topics in Instrumentation
(2-3) 3 hours credit. Prerequisites: EE 4453 or equivalent and EE 5153. May be repeated for credit as topics vary.
Topics may include:
Topic 1: Biomedical Systems. Bioinstrumentation for physiological monitoring; biocompatibility.
Topic 2: Automatic Test Equipment. Techniques and standards for ATE; VXIbus, IEEE-488, SCPI.
Topic 3: Virtual Instruments. Implementation of VI as collection of instrumentation resources.

Topic 4: Silicon Instruments. Techniques for fabricating sensors and signal processing elements into integrated systems.

5223 Topics in Digital Design
(3-0) 3 hours credit. Prerequisites: EE 5123 or consent of instructor. May be repeated for credit as topics vary.
Topics may include:
Topic 1: Switching Theory. Minimization of switching functions, synchronous and asynchronous sequential machines, minimization, reliable design, static hazards, fault-detection and location.
Topic 2: VLSI Design. Introduction to MOS, CMOS, and GaAs technology, CMOS analog and digital systems design, fan-in, fan-out andtiming considerations, structured design and testing, concurrent multiprocessor architectures, layout and simulation tools.
Topic 3: RISC Processor Design. RISC concept, RISC versus CIOSC, RISC advantages and disadvantages, various processors survey, applications. Study of software development tools— assemblers, compilers, simulators, RISC implementations.
Topic 4: Microcomputer-Based Systems. 8- and 16-bit microprocessors, Bus timing analysis, interfacing principles, LSI, VLSI chip interfacing. Use of software development tools such as assemblers, compilers, and simulators; and hardware development tools including logic analyzer.

5243 Topics in Control Systems
(3-0) 3 hours credit. Prerequisite: EE 5143.
May be repeated for credit as topics vary.
Topics may include:
Topic 1: Intelligent Robotics: Basic analytical techniques and fundamental principles of robotics; design and applications of robots. Topics include kinematics and dynamics of robot arms, trajectory planning and motion control, robot sensing, robot intelligence, robot programming, and mobile robots.
Topic 2: Multivariable Control Systems. Analysis and design of multivariable feedback systems, stability, performance, and robustness. Techniques may include LQG, Youla Parameterization, and Nyquist-like methods.
Topic 3: Discrete-time Control Theory and Design. Control theory relevant to deterministic and stochastic analysis and design of computer-controlled systems using both state-space and input-output models.
Topic 4: Nonlinear Control Systems. Nonlinear systems modeling and control, perturbation theory, state-plane analysis, nonlinear stability analysis in time and frequency domains, application of bilinear control.

5263 Topics in Digital Signal Processing and Digital Filtering
(3-0) 3 hours credit. Prerequisite: EE 5163 or consent of instructor. May be repeated for credit as topics vary.
Topics may include:
Topic 1: Nonlinear filters. Order statistic filters, morphological filters, Stack/Boolean filters, and other related topics.
Topic 2: Adaptive Filtering. Adaptive linear combiners, adaptive lattices, adaptive quadratic methods, and other related topics.
Topic 3: Neural Networks. Hopfield nets, perceptrons, multilayer networks, with supervised and unsupervised learning, and other related topics.
Topic 4: Modern Image Analysis. Digital image processing, image transforms, image enhancement, image restoration, image encoding, image segmentation, representation and description.

5273 Topics in Electro-optics
(3-0) 3 hours credit. Prerequisite: Graduate standing or consent of instructor.
May be repeated for credit as topics vary.
Topics may include:
Topic 1: Electromagnetic Fields and Waves. Maxwell's equations, electromagnetic waves, dielectrics, boundary conditions. Selected other topics include waveguides, transmission lines, and fiber optics.
Topic 2: Electro-Optics. Optical and electronic spectra of semiconductors; energy bands, block equations, bistability, Stark effect, electroabsorption, semiconductor lasers, optical techniques in VLSI.
Topic 3: Fourier transform and convolution in two dimensions, propagation and diffraction of optical wave fields, image forming systems, linear filter interpretation of imaging.
Topic 4: Quantum Electronics. Field quantization, charge field interaction, photon emission, electron-radiation interaction and lasers, density matrix method, noise and losses.

5283 Topics in Communication Systems
(3-0) 3 hours credit. Prerequisite: EE 5153 or consent of instructor.
May be repeated for credit as topics vary.
Topics may include:
Topic 1: Satellite Communication Systems: Signal formatting, power efficient digital modulation schemes, satellite link analysis, channel coding for satellite communications, modulation and coding trade-offs, synchronization.
Topic 2: Spread Spectrum Communications. Frequency hopping (FH) and direct sequence (DS) spread spectrum schemes, generation of maximal-length sequences, initial synchronization in spread spectrum receivers, code tracking loops, performance of spread spectrum systems in a jamming environment.
Topic 3: Error Control Coding. Coding for reliable communication and storage, introduction to modern algebra, linear block codes, linear convolutional codes, the Viterbi algorithm, sequential decoding of convolutional codes, application of convolutional codes in communications.
Topic 4: Fiber Optic Communications. Optic Fiber waveguides, light sources and detectors, couplers and connectors, analog and digital modulation, digital video transmission in fiber optic networks.

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 of 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:

Thesis Option	Semester Hours
Designated Electives (approved in consultation with Chairman of Student's Advisory Committee)	15
Free Electives chosen from Graduate Engineering Courses	9
Master's Thesis	6
Minimum Total Credit Hours Required	30

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, ME 5973	3
Minimum Total Credit Hours Required	33

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: Advance Dynamics. Analytical dynamics, including Newton-Euler, Lagrange, and Hamilton's principles; gyroscopic effects; stability.
Topic 2: Structural Dynamics. Matrix methods for analysis of dynamics of complex structures; computer solutions; system identification and experimental modal analysis.
Topic 3: Dynamics of Rotating Machinery. Dynamic stability, critical speeds and unbalanced response of rotor-bearing systems; operation through and above critical speeds.
Topic 4: Nonlinear Systems and Chaos. Phase space representation, local and global stability, time and frequency domain characterization, applications to oscillatory systems in various engineering disciplines.

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 2: Non-linear Vibrations. Classic methods in non-linear analysis; modern techniques for analysis of deterministic and chaotic behavior.
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 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.
Topic 3: Probabilistic Engineering Design. Stochastic methods in mechanical engineering design; probability density generation, probabilistic analysis and random processes.

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: Gas Dynamics. Integral and differential forms of the conservation equations, one-dimensional flow, oblique shock and expansion waves, and supersonic, transonic, and hypersonic flows.

Topic 4: Boundary Layer Theory. Viscous flow, integral and differential equations of motion, exact and numerical solutions for laminar flows, turbulent flows.

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 6973) 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 Provost and Vice President for Academic Affairs for approval.

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 tie 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
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 the 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
BIO	5571-3	Experimental Techniques in the Life Sciences—Tissue Culture 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 Provost and 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.

DOCTOR OF PHILOSOPHY DEGREE IN BIOLOGY

The Division of Life Sciences of the University of Texas at San Antonio offers opportunities for advanced study and research leading to the Doctor of Philosophy degree in Biology. The degree program is currently organized with an emphasis in molecular and cellular neurobiology. The Ph.D. degree in Biology is awarded to candidates who have 1) displayed an in-depth understanding of the subject matter *and* 2) demonstrated the ability to make an original contribution to knowledge in their field of specialty.

The regulations for this degree comply with the general University regulations, refer to Section VII of this catalog.

Admission Requirements. All prospective students must have a B.A. or a B.S. degree from an accredited university and a minimum GPA of 3.0 in upper-division and graduate work, preferably in biology. Entering students should have a GRE (analytical and verbal) score of no less than 1000. Exceptions can be made in cases with a strong justification (e.g., high GPA and/or extensive research experience). Applicants whose native language is not English must score at least 550 on the TOEFL. The Doctoral Studies Committee, comprised of members selected from the graduate faculty, will be responsible for advising students. Admission requires appointment to a Teaching Assistantship, Research Assistantship or Research Fellowship.

Degree Requirements. The doctoral degree requires a minimum of 90 hours beyond the baccalaureate degree. The core curriculum consists of 1) 30 hours formal course work, including elective courses that support the emphasis in neurobiology, and 2) required teaching, research and completion of the dissertation following Advancement to Candidacy. Enrollment in Life Sciences Colloquium and Seminar in Life Sciences are required each semester of enrollment and may be taken for a maximum combined total of 27 hours. A minimum of 36 hours in doctoral research, including 12 hours for the doctoral dissertation must be completed. Any grade lower than "B" in a graduate course or in remediating course work at the undergraduate level will not count toward the 90 hours. Students matriculating with a master's degree may receive up to 30 hours of credit provided the courses are comparable to core and elective courses.

Program of Study

Core Curriculum: (15 hours required)

BIO	5513	Advanced Biochemistry
BIO	5573	Experimental Techniques in the Life Sciences: (6 hours)
		Quantitative Biology 3 hours
		Research Rotations 3 hours
BIO	6643	Cellular and Molecular Biology
BIO	7113	Supervised Teaching in Life Sciences

Colloquia and Seminars: (27 hours maximum)

BIO	5041	Life Sciences Colloquium
BIO	5053	Seminar in Life Sciences

Doctoral Research: (36 hours minimum)

BIO 7213 Doctoral Research (24 hours minimum)
BIO 7313 Doctoral Dissertation (12 hours minimum)

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Electives: (15 hours minimum)

BIO 5423 Neuroanatomy
BIO 5433 Neurophysiology
BIO 5443 Neurochemistry
BIO 5453 Neuroendocrinology
BIO 5503 Sensory Physiology
BIO 5543 Pharmacology and Toxicology
BIO 5833 Membrane Structure and Function
BIO 6803 Advanced Immunology and Immunochemistry

The entire Program of Study must be approved by the student's Dissertation Advisor, Dissertation Committee, and Doctoral Studies Committee and be submitted to the Associate Vice President for Graduate Studies and Research through the Dean of the College for final approval.

Advancement to Candidacy. Advancement to candidacy requires a student to complete all University and program requirements and to pass written and oral qualifying examinations within one year following completion of all course requirements. The written examination will be constructed, administered and evaluated by the Doctoral Studies Committee. The oral examination will be conducted by a faculty committee, nominated by the Doctoral Studies Committee and approved by the Dean of the College and the Associate Vice President for Graduate Studies and Research. No more than two attempts to pass qualifying examinations will be allowed. Results of the written and oral examinations must be reported to the Associate Vice President for Graduate Studies and Research through the Dean of the College. Admission into the Ph.D. program does not guarantee advancement to candidacy.

Dissertation. Candidates must demonstrate their ability to conduct independent research by completing and defending an original dissertation. The research topic will be determined by the student in consultation with his/her supervising professor. A dissertation committee selected by the student and supervising professor and approved by the Dean of the College and the Associate Vice President for Graduate Studies and Research will guide and critique the candidate's research. The Dissertation Committee must approve the completed dissertation.

Final Oral Examination. Following an open presentation of the dissertation findings, the Dissertation Committee will conduct a closed oral examination dealing primarily with the relation of the dissertation to the general field of specialty. Results of the oral examination must be reported to the Associate Vice President for Graduate Studies and Research through the Dean of the College. The awarding of the degree is based upon the approval of the Dissertation Committee, selected and approved by the Dean and Associate Vice President for Graduate Studies and Research. The Associate Vice President for Graduate Studies will certify the completion of all university-wide requirements.

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 engineering 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.

5453 Neuroendocrinology
(3-0) 3 hours credit. Prerequisites: BIO 3813 and 4433.
Anatomical and molecular neurobiology of the endocrine hypothalamus and associated organs. Morphological, cell biological, and feedback mechanisms of endocrine regulation are emphasized.

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. Perquisite: 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. Perquisite: 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).

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.

7113 Supervised Teaching in Life Sciences
3 hours credit. Prerequisite: Admission to candidacy for the doctoral degree.
May be repeated for credit.

7213 Doctoral Research
3 hours credit. Prerequisite: Admission to candidacy for the doctoral degree.
May be repeated for credit but no more than 24 hours may be applied to the doctoral degree.

7313 Doctoral Dissertation
3 hours credit. Prerequisite: Admission to candidacy for the doctoral degree and completion of at least 21 hours of BIO 7213.
May be repeated for credit but no more than 12 hours may be applied to the doctoral degree.

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 Algebra I
   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 semester 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 **Algebra I**
(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 differential equations. Same as CS 5293. Credit cannot be earned for both MAT 5293 and CS 5293.

5313 Algebra II
(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 Thorem, bounded linear operators.

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 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 Differential Equations I
(3-0) 3 hours credit. Prerequisites: MAT 3613 and 4213 or consent of instructor.
Solution of initial-value problems, linear systems with constant coefficients, exponentials of operators, canonical forms and generic properties of operators, contractions.

5663 Differential Equations II
(3-0) 3 hours credit. Prerequisite: MAT 5653.
Dynamical systems, the fundamental existence and uniqueness theorem, stability, the Poincare-Bendixson Theorem, introduction to perturbation and bifurcation theory.

5673 Partial Differential Equations I
(3-0) 3 hours credit. Prerequisite: MAT 5663 or MAT 3623 or consent of instructor.
Classical theory of initial value and boundary value problems for partial differential equations.

5683 Partial Differential Equations II
(3-0) 3 hours credit. Prerequisite: MAT 5673.
Modern topics in partial differential equations.

5833 Perturbation Theory in Applied Mathematics
(3-0) 3 hours credit. Prerequisite: MAT 3613 or MAT 5653 or consent of instructor.
Perturbation theory, asymptolic 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.
Theory and application of discrete time series models. Principles of iterative model building. 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-Parmetric Statistics
(3-0) 3 hours credit. Prerequisite: STA 5103 or consent of instructor.
Order statistics, test of goodness off it, 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 controlcharts, 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 Sciences 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 graduate 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 conditions 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 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 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 an 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 square 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 Compliers
(3-0) 3 hours credit. Prerequisite: CS 5353.
A study of modern programming languages with emphasis on their implementation. Topics including 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. Prerequisite: CS 3733 and CS 4753.
Study of modern computer architecture, including parallel computers, multiprocessors, pipe-lines, 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.
Mathematical paradigms of simulation: ordinary differential equations, functional differential equations, and differential automata. Modern simulation languages.

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.
Introduction to microprogramming concepts. Architectural characteristics of microprogrammed computers. Microprogramming languages and support software, Computers with vertical, diagonal and horizontal microinstruction formats, Developments in microprogramming languages. Applications of microprogramming. Design of microprograms implemented in writable control store.

5723 Microcomputer Systems
(2-3) 3 hours credit. Prerequisite: CS 4753 or equivalent.
An in-depth study of microcomputers and related LSI devices, to include selected major commercially available devices. A review of data formats, digital devices and integrated circuits. Microcomputer architectures. Microcomputer programming. Input/output programming. System bus and I/O control logic. Input/output interfaces. Memory subsystems. Development tools and languages. Single-chip 16-bit microprocessors, Bit-sliced microprocessors.

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 or 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.
Techniques in simulation on a digital computer Generation of random numbers from a distribution, Monte Carlo techniques, use of simulation languages. Development of simulation models for specific problems.

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.

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 emphasizes the anthropology of North and Middle America. Students, in conjunction with the faculty, may design their programs on the anthropology of North or Middle America, with a focus on one or more of the subdisciplines of archaeology, cultural anthropology, or ethnohistory. Faculty expertise lies in the archaeology and ethnohistory of the Mayan region, the archaeology of Texas and the Greater Southwest, the cultural anthropology of Texas and the Plains, ethnohistory and cultural anthropology of the Eastern United States, and medical anthropology of the Border region.

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 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.

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.* Such evidence would be a scholarly contribution of monograph length, reflecting in-depth research on a topic. A major published article or monograph may potentially meet these requirements.

A maximum of 12 hours of archaeological fieldwork (ANT 5556, 6443, 6953 or 6933) can be applied toward the degree. Normally students will take a minimum of 15 hours in regular, organized, graduate anthropology courses other than fieldwork, independent studies, and internships. Note that Special Problems (ANT 6973) and Topics in the Anthropology of Native North America (ANT 6213) count as organized classes. Exceptions may be granted by the Graduate Studies Committee in Anthropology.

Apart from these requirements, the Program of Study 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 required and 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 programs of study will require students to demonstrate proficiency in a second language or statistics. 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, Method, 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. May be repeated for credit with different instructors.

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.

5283 Hunters and Gatherers
(3-0) 3 hours credit.
A study of the major issues archaeologists address concerning the cultural ecology and cultural evolution of hunters and gatherers around the world.

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.

5453 Seminar on the Archaeology of the American Southwest and Adjacent Regions
(3-0) 3 hours credit.
Review of the major prehistoric cultures of the American Southwest including the Anasazi, Mogollon, and Hohokam cultural regions and adjacent areas. Emphasis will be placed on current research.

5463 Seminar in the Origins of Farming and Sedentism
(3-0) 3 hours credit.
Review of archaeological explanations and data on the beginnings of farming and sedentism around the world.

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.

6203 Recent Trends in Archaeological Method and Theory
(3-0) 3 hours credit.
A survey of major issues in archaeological method and theory. Attention will be focused on recent methodological and theoretical developments in archaeology. May be repeated for credit with different instructors.

6213 Topics in the Anthropology of Native North America
(3-0) 3 hours credit.
An organized course which examines topics of current interest to anthropologists with a focus on North America. May be repeated for credit.

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 of 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 historiographic 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.

5093 Designing a College-Level History Survey
(3-0) 3 hours credit.
A comprehensive approach to constructing history survey courses for the college level. Topics may include a survey of current curriculum debates; course and syllabus design; selection of textbook and other readings; evaluation and grading; leading discussions; non-traditional instructional methods, including the use of new technologies; and lecture preparation and presentation.

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.

5183 The Rise of Industrial America
(3-0) 3 hours credit.
An examination of developments in the United States in the late nineteenth century and early twentieth century. Specific topics may include state-building, the organization of industrialization, reform movements, and the effects of immigration and urbanization on American society.

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 1890's, 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.)

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.

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.

6203 War and Society: Europe
(3-0) 3 hours credit.
An example 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).

6973 Special Problems
(3-0) 3 hours credit.
An organized course providing specialized study in a historical field not normally available as part of the regular course offerings. May be repeated for credit when topics vary.

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 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.[34]

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 hours required)

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	Sociolinguistics for Bilingual and Second Language Studies
BBL	5133	Hispanic Biculturalism in the United States

[34]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.

Bilingual Education Theory (three hours required)

BBL 5113 Theoretical Foundations of Bicultural-Bilingual Education
BBL 5163 Philosophy of Bilingual Education

Linguistics and Second Language Studies (three hours required)

ESL 5003 Linguistics for Second Language and Bilingual Specialists
ESL 5013 Psycholinguistic Foundations of Second Language Acquisition

Teaching Methodology: Content and Language (six hours required)

BBL 5033 Teaching Content in Bilingual Programs
BBL 5063 Reading in Bicultural-Bilingual Programs
BBL 5143 Communication in Bilingual Classrooms
BBL 5193 Literature for Children in a Multicultural America

Research and Evaluation (six hours required)

BBL 5053 Assessment 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 hours required)

ESL 5053 Second Language Methods and Materials
ESL 5063 Language and Content-Area Instruction
ESL 6063 Writing in Second Language Programs

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 interdisciplin ary approach to the study of socio-cultural dynamics in multicultural societies. Specific emphasis is on the study of biculturalism in the United States. Courses are designed for persons with professional, policy, and research interests in intercultural relations, government, education, ethnic studies, urban studies, business, health and social services. Students who pursue this degree may come from a wide range of academic backgrounds including, for example, the Humanities, Social Sciences, and Business. At least 21 hours must be taken in courses with a BBL designation. 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 hours required)

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
BBL	6033	Topics in Bicultural Studies[2]

Historical Foundations (three hours required)

ANT	5233	Concepts of Ethnohistory
HIS	5263	The Spanish Borderlands, 1521-1821
HIS	5423	Colonial Mexico
HIS	6173	Hispanics in the U.S.

Language and Expressive Culture (nine hours required)

AHC	5813	Topics in Art History[2]
BBL	5043	Ethnography of Communication
BBL	5093	Art and Folklore in a Multicultural America
BBL	5123	Sociolinguistics for Bilingual and Second Language Studies
BBL	5193	Literature for Children in a Multicultural America
ESL	5003	Linguistics for Second Language and Bilingual Specialists
SPN	5473	Spanish-American Civilization[2]
SPN	5483	Studies in Hispanic Culture
SPN	5803	Mexican-American Literature
SPN	5853	Spanish of the Southwest[2]

Research Foundations (six hours required)

BBL	6073	Ethnographic Research Methods in Bicultural-Bilingual Studies
BBL	6053	Testing Members of Bicultural-Bilingual Societies
or		
BBL	6063	Research Methodology in Bilingual and Second Language Studies

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.

[2]Consult the Graduate Advisor

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. It is an interdisciplinary program which presents systematic instruction in applied linguistics, second language acquisition theory, and ESL program implementation. At least 21 hours must be taken in courses with an ESL designation and 9 hours in courses with a BBL designation. The M. A. degree is offered under two options: thesis and non-thesis.

Degree requirements.

A. Required coursework. 30 hours of coursework from five major areas as follows:

Theory of Language and Language Acquisition (nine to twelve hours required)

BBL	5123	Sociolinguistics for Bilingual and Second Language Studies
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 Program Designs (nine to twelve hours required)

ESL	5033	Reading and Literature in Second Language Programs
ESL	5043	Listening and Speaking in Second Language Programs
ESL	5053	Second Language Methods and Materials
ESL	5063	Language and Content-Area Instruction
ESL	6053	Syllabus and Program Design
ESL	6063	Writing in Second Language Programs

Language Assessment and Evaluation (three hours required)

BBL	5053	Assessment in Bilingual and Second Language Studies
or		
BBL	6053	Testing Members of Bicultural-Bilingual Societies

Research Methodology (three hours required)

BBL	6063	Research Methodology in Bilingual and Second Language Studies
or		
BBL	6073	Ethnographic Research Methods in Bicultural-Bilingual Studies

Socio-Cultural Studies (three hours required)

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.

COURSE DESCRIPTIONS
BICULTURAL-BILINGUAL STUDIES
(BBL)

5003 Foundations for Bicultural Studies
(3-0) 3 hours credit.
The study of basic concepts, principles and approaches for the interdisciplinary study of 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.
The study of the dynamic relationships between culture and language, with emphasis on various adaptations to diverse sociocultural systems.

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.

5043 Ethnography of Communication
(3-0) 3 hours credit.
Examines the theoretical perspectives for the study of communication in varying cultural contexts. Topics may include intercultural and intracultural communication patterns, effect of cultural differences on interactions, culture concepts, nonverbal behavior, and increasing intercultural effectiveness.

5053 Assessment in Bilingual and Second Language Studies
(3-0) 3 hours credit.
The study and evaluation of language assessment instruments. Topics may include standardized tests of language proficiency as well as alternate means of assessment; emphasis on the role of sociocultural factors in the choice of assessment instruments and the interpretation of results.

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.
The study of the social and cognitive psychological factors facing populations in bicultural-bilingual environments.

5093 Art and Folklore in a Multicultural America
(3-0) 3 hours credit.
A study of the visual arts and the folklore of representative culture groups creating a significant contribution to contemporary society. The course, stressing Hispanic American contributions, touches on mural and street art, spraycan and yard art, regional and religious art as well as folk, popular, musical, and other arts.

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 Sociolinguistics for Bilingual and Second Language Studies
(3-0) 3 hours credit.
The study of sociolinguistic theory and methodology and its applicability to the linguistic issues of multilingual and dialectally diverse communities. Topics may include sociolinguistic approaches to second language acquisition, language retention and loss, and language planning.

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. Offered in Spanish.

5163 Philosophy of Bilingual Education
(3-0) 3 hours credit.
An historical survey and philosophical study of bicultural-bilingual education.

5173 Sociocultural Issues and the Teaching of Reading
(3-0) 3 hours credit.
Study of how social, cultural, and linguistic factors affect the reading and writing practices of students and how school reading curriculum,instruction, and assessment can be designed to support students from differing sociocultural backgrounds. Special attention is given to the role that social class, dialect, gender, second language learning, and ethnicity play in literacy learning and teaching.

5193 Literature for Children in a Multicultural America
(3-0) 3 hours credit.
A study of representative children's literature for, and about, the many culture groups in the Americas with emphasis on Hispanic Americans.

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 linguistic, social, and psychological variables in bilingual, second language and dialectally diverse populations; emphasis on designing and carrying out 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 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 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, directed towards a broad understanding of human language, with particular attention to second language and bilingual contexts.

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 and Literature in Second Language Programs
(3-0) 3 hours credit.
A course on the relationship of reading acquisition to language learning, including oral language and writing development. The preparation and adaptation of thematic reading materials for various levels of proficiency. A critical evaluation of existing reading materials and literature available for second language learners.

5043 Listening and Speaking in Second Language Programs
(3-0) 3 hours credit.
Development, presentation, and evaluation of materials and strategies for teaching of listening and speaking to second language learners. Emphasizes current theories and development of oral proficiency.

5053 Second Language Methods and Materials
(3-0) 3 hours credit.
A critical study of various methodologies in second language teaching; evaluating commercial and teacher-made materials.

5063 Language 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, and syllabus design. May be repeated for credit when topic varies.

6053 Syllabus and Program Design
(3-0) 3 hours credit.
Considers theoretical and practical issues in preparing a syllabus and in designing programs to meet needs of second language learners.

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.

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. The Internship does not apply towards the credit-hour requirement for the degree program. The grade report is either CR (satisfactory performance) or NC (unsatisfactory performance).

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 take a specified set of courses related to Initial Teacher Certification (See Graduate Advisor for course list and for restrictions on this program), or may 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 counselling and guidance at the elementary, secondary, or higher education levels 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. Three hours selected from:
      EDU 5103, Contemporary Educational Philosophy
      EDU 5113, Philosophical and Ethical Dimensions of Counseling
      EDU 5203, Evolution of Educational Thought
   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; a program emphasis for the degree may require 24 hours. (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: Initial Teacher Certification, Master Teacher, Curriculum Specialist, Instructional Media 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, 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.

D) Comprehensive Examination

The student's supervisory committee is responsible for administering this examination.

Additional Degree Requirements. Concentration in Educational Leadership Component One courses must be taken first in the Educational Leadership Concentration, they are prerequisites for all Component Two courses. Component One courses are EDL 5003, EDL 5103, EDL 5603, EDL 5703, and EDL 6323. Also as a prerequisite for Component Two courses all students are required to take and pass an examination focusing on the integration and application of the knowledge base associated with Component One courses. This examination is referred to in course listings as the Foundations Examination.

Summary of Degree Options

Option I, with thesis		Option II, without thesis	
Core		**Core**	
EDU 5003		EDU 5003	
EDU 5103		EDU 5103	
EDP 5003		EDP 5003	
C&I 5003		C&I 5003	
	12 hours		12 hours
Concentration		**Concentration**	
Courses required for a program emphasis in a single concentration		Courses required for a program emphasis in a single concentration	
	12 hours		12 hours
Support		**Support**	
EDU 5053 or approved substitution		9 hours or support courses	
EDU 6983 (six hours)		3 hours of approved electives	
	9 hours		12 hours
	Total: 33 hours		Total: 36 hours

DOCTOR OF PHILOSOPHY DEGREE IN EDUCATIONAL LEADERSHIP

See Chapter VII on Doctoral Degree Regulations 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.

5813 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. Formerly AHE 5803. Credit cannot be earned for more than one of the following: AHE 5813, AHE 5803, or C&I 5813.

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.

5013 Classroom Instruction and Evaluation
(3-0) 3 hours credit.
Examination of different pedagogical approaches to the teaching/learning process in elementary school with emphasis on the development of curriculum for classroom instruction, evaluation, organization, and management.

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.

5303 Technology in Curriculum and Instruction
(3-0) 3 hours credit.
A study of emerging instructional technologies and innovative curriculum resources. The design, application and evaluation of individualized, interactive resources such as personal computer-based, videodisc, and distance learning methodologies via voice, data and television systems.

5313 Instructional Materials Production I: Graphics and Multimedia
(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 ofmedia 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 programming instructional materials in traditional media and computer-based interactive formats. S-R Theory as applied in the development of programmed instruction will be examined. Students will be expected to develop and developmentally test programmed instruction materials.

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. Credit cannot be earned for both C&I 5503 and ECE 5503.

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.

5583 Study Strategies and Cognitive Processes in Reading
(3-0) 3 hours credit.
Reviews research which examines study strategies and cognitive processes needed in reading and learning in schools. Focuses on upper elementary through college study practices and higher level reading and thinking. Field experience may be required.

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. Credit cannot be earned for both C&I 5603 and ECE 5603.

5673 Critical Issues in Elementary School Teaching
(3-0) 3 hours credit.
Study of critical issues in the elementary school. Investigation of research, practices, and positions related to special education, bilingual and multicultural education, early childhood education, and to other current broadly-based social issues.

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.

5713 Introduction to Reading
(3-0) 3 hours credit.
Introduction to the reading process, overview of the development of reading and 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. Formerly C&I 5733. Credit cannot be earned for both C&I 5713 and C&I 5733.

5723 Integrating Reading and the Language Arts
(3-0) 3 hours credit.
Study of research and instructional practices that examine ways that reading can be related to writing and to speaking and to listening. Emphasizes how to develop integrated language arts curriculum and instruction from primary grade levels through secondary school.

5743 Reading in Secondary School
(3-0) 3 hours credit.
Principles and techniques for teaching higher level reading and comprehension 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 Practicum in Reading
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
Multidisciplinary approach to diagnosis and remediation of reading problems with special attention to cognitive, sociolinguistic, and emotional factors which may impede learning. Application of diagnostic and remedial procedures with individual children through a guided field based practicum. Credit cannot be earned for both C&I 5763 and C&I 5773.

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, curricula, 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.

5813 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. Credit cannot be earned for both C&I 5813 and AHE 5813.

5823 Reading and Writing Development in Early Childhood
(3-0) 3 hours credit.
Study of the literacy development of young children from birth to the point of acquisition of conventional reading and writing ability. Examines young children's emergent literacy concepts and behaviors and considers ways that early childhood educators can develop appropriate approaches to teaching reading and writing in classroom settings. Credit cannot be earned for both C&I 5823 and ECE 5823.

5833 Assessment Issues and Practices in Reading
(3-0) 3 hours credit.
Examination of techniques to assess student reading and writing. Considers strengths and weaknesses of such assessment tools as standardized tests, informal observations, and portfolios, and ways that educators may best use the results from these approaches to provide appropriate instruction for all students.

5903 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. Formerly C&I 5803. Credit cannot be earned for both C&I 5903 and C&I 5803.

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 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 techniques. 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 communication and interpersonal skills needed for working with teachers. Credit cannot be earned for both C&I 6023 and EDL 6023.

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 discipline 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 handicapped 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 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.

5503 Curriculum 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. Credit cannot be earned for both ECE 5503 and C&I 5503.

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. Participants will construct and use 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.

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. Credit cannot be earned for both ECE 5603 and C&I 5603.

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.

6213 Current Issues in Early Childhood and Elementary Education
(3-0) 3 hours credit. Prerequisite: Consent of instructor.
Studies of current issues and problems in preschools and elementary schools and other educational settings. Investigation of research, practices, and positions related to the issues studied. Exploration of available models for possible solutions or resolution of issues, as well as factors that may impact upon desired outcomes.

6303 Advanced Methods in Early Childhood and Elementary Education
(3-0) 3 hours credit. Prerequisite: C&I 5003 or consent of instructor.
Specialized studies in early childhood and elementary education are offered through course sections in the areas listed below.
1. Science
2. Mathematics
3. Social Studies
4. Language Arts
5. Fine and Performing Arts
6. Play
7. Nutrition and Health

May be repeated for credit when curriculum areas vary.

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.

6943 Instructional Internship
(1-8) 3 hours credit. Prerequisite: Approval of Graduate Advisor.
Individually supervised full-time field experience in assigned classrooms for one semester. May be repeated for credit.

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. Credit will be awarded upon completion of the thesis. 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, EDL 5103, EDL 5603, EDL 5703, EDL 6323 and successful completion of the EDL Foundations Examination.
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, EDL 5103, EDL 5603, EDL 5703, EDL 6323 and successful completion of the EDL Foundations Examination.
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.

6303 Ethics and Educational Leadership
(3-0) 3 hours credit. Prerequisites: EDL 5003, EDL 5103, EDL 5603, EDL 5703, EDL 6323, and successful completion of the EDL Foundations Examination.
To provide an ethical perspective of educational issues in the public school setting. To illustrate a leadership model based on social

responsibility in a democratic society. To provide a paradigm for ethical decision making based on the values of fairness, justice, equity, and inclusion.

6313 Seminar on School Problems
(3-0) 3 hours credit. Prerequisites: EDL 5003, EDL 5203, EDL 5603, EDL 5703, EDL 6323 and successful completion of the EDL Foundations Examination.
Intended to help students identify significant school policy generated problems, discern underlying causes, propose strategies, and develop alternative paradigms to address the problems, and to critically analyze the short and long term effects on the organization, its members, and its mission.

6323 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.

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 5003, EDL 5103, EDL 5603, EDL 5703, EDL 6323 and successful completion of the EDL Foundations Examinations.
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 Leaning
(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 Behavior 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 Exceptional Children and Youth in the Schools
(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.

5413 Children and Youth with Mental Retardation
(3-0) 3 hours credit. Prerequisite: EDP 5403 or consent of instructor.
This course presents the opportunity for special education teachers and students in related fields to acquire an understanding of contemporary theories and practices used in the assessment, diagnosis and treatment of individuals with mild to profound mental retardation in school and community settings. Current trends and research in the education of students with mental retardation will be studied.

5423 Applied Behavior Analysis for Classroom Teachers
(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 Conference and Consultative Skills in Special Education
(3-0) 3 hours credit. Prerequisite: EDP 5403 or consent of instructor.
This course presents the opportunity for special education teachers to acquire knowledge and skill in working with parents, teachers, and other professionals in optimizing the educational and therapeutic experiences of exceptional children and youth. Students will plan, implement, and evaluate a series of parent conferences, staff development and consultive activities.

5453 Children and Youth 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 Cognitive Intervention for Individuals with Disabilities
(3-0) 3 hours credit. Prerequisite: EDP 5403 or consent of instructor.
This course presents methods and procedures for assisting individuals identified as mildly to moderately handicapped to achieve communicative competence through language acquisition, remedial and corrective interventions. Special emphasis is placed on the language arts needs (listening, speaking, reading and writing) of individuals with learning and behavior disabilities.

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 Children and Youth with Behavior Disorders
(3-0) 3 hours credit. Prerequisite: Consent of Instructor.
This course presents opportunities for study by special educators and students in related fields to obtain an understanding of various theories and practices used in the identification, treatment, and education of behavior disorders. Research relative to the education of children and adolescents with behavior disorders as well as practical implications for the classroom teacher will be emphasized.

5553 Assessment and Evaluation of Handicapped Children and Youth
(3-0) 3 hours credit. Prerequisite: EDP 5403 or consent of Instructor.
This course is designed to offer students the opportunity to develop knowledge and skills in selection, administration, and interpretation of instruments and procedures to evaluate handicapped individuals. Emphasis will be on assessment techniques, instruments, and procedures relevant to the education of handicapped children and youth.

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.

5693 Practicum in Counseling
(3-0) 3 hours credit. Prerequisite: 18 hours of coursework in counseling at UTSA, 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.

6203 Curriculum and Instructional Applications for Handicapped Children and Youth
(3-0) 3 hours credit. Prerequisites: EDP 5403, EDP 5553, or consent of instructor.
This course is designed to provide students with an opportunity to engage in the analysis of curriculum planning and implementation of a variety of instructional methods, procedures, and strategies appropriate for the implementation of mandated Individual Family Service Plans, Individual Education Programs, and Individual Transition Plans for handicapped children and youth. Credit cannot be earned for both EDP 6203 and C&I 6203.

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 courseofferings. 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.

5023 Management of Kinesiology and Health Programs
(3-0) 3 hours credit.
An examination of the various functions involved in the management of a sport, health or recreation related organization. Among the topics for investigation will be budgeting, facilities, scheduling, promotion and liability.

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.

5053 Principles of Exercise Physiology
(3-0) 3 hours credit.
Examination of the physiological effects of exercise on the body with particular emphasis on the musculoskeletal, cardiovascular and respiratory systems. Laboratory techniques used to assess physiological parameters will be included.

5063 Health Behaviors
(3-0) 3 hours credit.
A study of the determinants of human behavior as they relate to current health issues. Health behavior models and underlying rationales for prevention and intervention strategies will be examined.

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' 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 1993-95, 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/3 hours credit for each of two consecutive semesters. 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 innovation 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.

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 leadership 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 a professional degree designed to prepare individuals for positions of leadership in management and/or policy at the several levels of government, in non-profit agencies, and in private sector areas where knowledge of government is important.

Program Admission Requirements. In order to qualify for unconditional admission, applicants must satisfy university-wide graduate admission requirements, submit either Graduate Record Examination (GRE) or Graduate Management Admission Test (GMAT) scores, and have completed undergraduate courses in Research Methods or Statistics, Economics, and United States Government. Applicants who do not meet these requirements will be considered for conditional admission. Admission decisions will be based on a combination of the following factors: (a) undergraduate or graduate transcripts, (b) GRE or GMAT test scores, (c) professional background. Admission as a Special Graduate 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 36. In addition to these basic degree requirements, students without prior public service employment must complete 6 semester hours of Internship (PAD 6963-6), Applied Research (PAD 6923), or Thesis (PAD 6983-6).

All candidates for the degree must complete:

A. 21 semester hours of core courses:
   1. PAD 5003 Contemporary Perspectives on Public Administration
   2. PAD 5023 Quantitative Methods for Public Administration
   3. PAD 5033 Theories of Public Bureaucracy
   4. PAD 5323 Public Policy Formation and Implementation
   5. PAD 5343 Personnel Management in the Public Sector
   6. PAD 5363 Public Sector Financial Management
   7. PAD 5393 Economics for Public Administrators

B. 9 semester hours in one of the following specializations chosen in consultation with the MPA program Graduate Advisor.
   1. Public Management
   2. Public Policy
   3. Urban Planning Management
   4. Health Policy and Administration
   5. International Administration and Policy
   6. Justice Policy and Administration

C. 6 semester hours of electives

D. Comprehensive Examination. All candidates for the degree are also required to pass both written and oral comprehensive examinations. Examinations are given in the Fall and Spring semesters and are scheduled after a student has completed at least 30 semester hours in the program including all core requirements.

E. Thesis Option. Students may also elect to complete a thesis as part of their MPA degree program. Arrangements for this option are made through the Graduate Advisor of Record.

COURSE DESCRIPTIONS
PUBLIC ADMINISTRATION
(PAD)

5003 Contemporary Perspectives on Public Administration
(3-0) 3 hours credit.
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.

5013 Communication Skills for Public Management
(3-0) 3 hours credit.
Designed to improve the students' ability to use oral, written, graphical, and other presentational techniques as a means of expressing and conceptualizing ideas. (Formerly PAD 6513; credit cannot be earned for both PAD 5013 and PAD 6513.)

5023 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 covered. (Formerly PAD 5903; credit cannot be earned for both PAD 5903 and PAD 5023.)

5033 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. (Formerly POL 5353; credit cannot be earned for both POL 5353 and PAD 5033.)

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, limitation, 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.

5363 Public Sector Financial Management
(3-0) 3 hours credit.
An examination of techniques and processes of financial management in public sector organization. Emphasis is on the practice of financial planning, budgeting, accounting, and the design/management of financial information systems.

5393 Economics for Public Administrators
(3-0) 3 hours credit.
Examines the basic concepts of macroeconomics and microeconomics as they relate to public policy formation and administration. Focus is on government involvement in the economy and the effects of market and nonmarket failure.

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.

5513 Urban and Regional Economic Development
(3-0) 3 hours credit.
Scope and status of urban-regional economic development. Analyses of factors contributing to the economic growth or decline of American cities or regions. Roles of government in urban and regional economic development. Public/private cooperation. Case studies.

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. Prerequisite: PAD 5503 or consent of the instructor.
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 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.

5653 Public Policy and Administration in Latin America
(3-0) 3 hours credit. Prerequisite: Consent of the instructor.
Focuses on the distinctions of public policy formation and administration in Latin American countries. Interrelationships among countries and with the United States are also addressed.

5663 Development Administration
(3-0) 3 hours credit.
Explores the basic relationship between administration and development in underdeveloped, newly developing and developed societies. Also analyzed is the role of development administration and supranational organizations as well as regional and international political economic organizations.

5813 Health Issues and Policies
(3-0) 3 hours credit.
An examination of the salient issues affecting public health policy and an examination of the major public health policies, their bases and responses to demand for health services.

5823 Health Finance and Economics
(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 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 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.

5863 International Health Issues
(3-0) 3 hours credit.
This course investigates salient health issues in countries other than the United States. Special focus is on the health problems of developing countries.

5873 Health Administration
(3-0) 3 hours credit.
An examination of the role of the public health administrator and the methods of public health administration within the context of public health policy.

6213 Social Justice
(3-0) 3 hours credit.
The provision of normative guidance for understanding social issues and tracing the consequences of public service policies and programs through various constructions of justice. Competing facts and values which surround the contemporary debate over justice policy and practice. Topics include: human agency, resistance to domination, developing alternative organizations, development of moral reasoning and values, and distributive justice.

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.

6233 Law and Policy
(3-0) 3 hours credit.
This course examines the relationship between law and policy in the three branches of government and at the federal, state and local levels. It focuses on the relationships between behavior and public law and policy.

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.

6923 Applied Research
(3-0) 3 hours credit. Prerequisite: Consent of the instructor.
Provides the opportunity to apply substantive expertise and technical skills to management or policy problems in the public sector. (May be repeated for three hours additional credit with different emphasis.)

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.

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.

5603 International Relations
(3-0) 3 hours credit.
An analysis of the complexity of the international system: its actors, institutions, economics, conflicts, and management. Topics may include development, military conflicts, aid, conflict resolution, international institutions, resources, the environment and space.

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.

5723 International Organizations
(3-0) 3 hours credit.
An examination of international political and economic organizations, as well as major issues involving them. Topics may include alliance systems, regional development, common markets, peacekeeping, international conferences, United Nations, IMF, World Bank, and regional organizations.

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
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, regardless 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 the Master's Degree.

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Information Directory

Requests for information should be directed to the offices shown below. The University's address is: the University of Texas at San Antonio, San Antonio, Texas 78249. The main telephone number of UT San Antonio is (210) 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 ..... Director of Extended Education
Degree Application ..... Registrar
Disabled Students ..... Coordinator of Disabled Student Services
Financial Aid, Loans, or
Scholarships ..... Office of Student Financial Aid
Financial Matters ..... Business Manager
General Information ..... Director of Admissions
Health Services ..... Student Health Services
International Students ..... International Student Advisor
Parking ..... University Police
Placement Services
Teacher ..... Director, Office of Teacher Advising, 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 ..... Student Activities Office
Student Employment ..... Office of Student Financial Aid
Director of Student Employment and Internships
Student Services, General ..... Vice President for Student Affairs
Teacher Certification Program ..... Director, Office of Teacher Advising, Certification and Placement
Transfer of Credit ..... Registrar
Transcripts ..... Registrar
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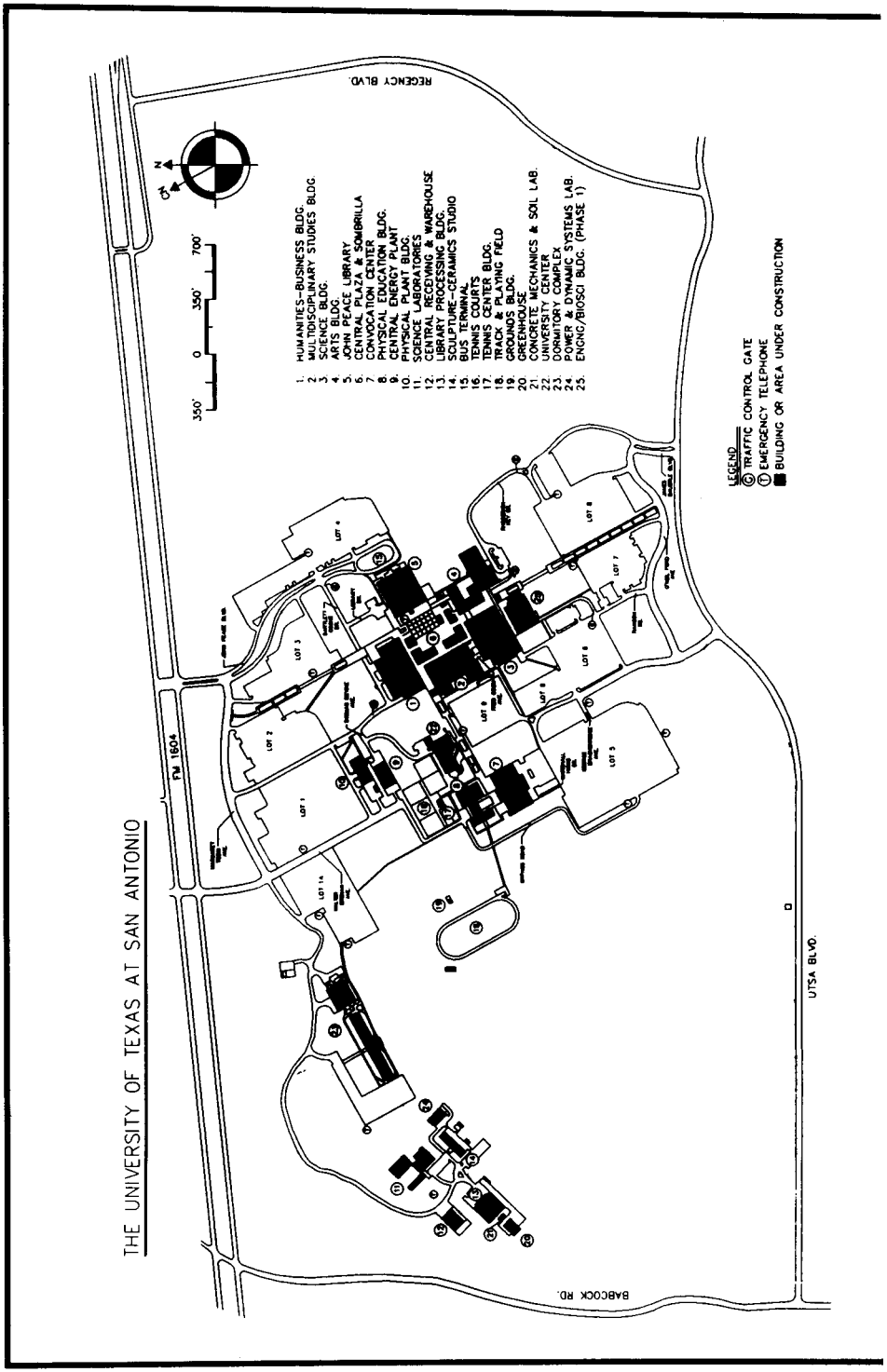
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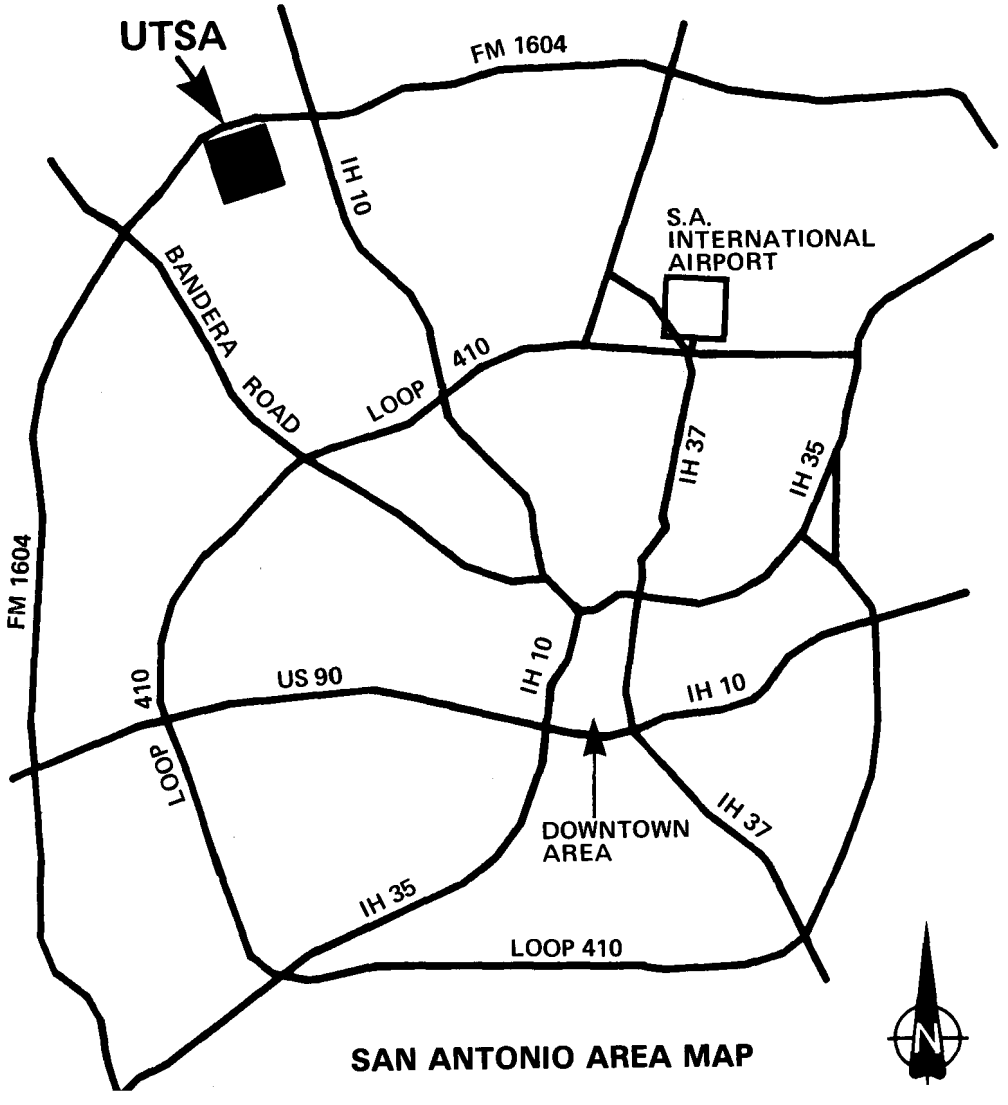

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