
UNIVERSITY OF NORTH TEXAS™

Bulletin

2006-2007 Graduate Catalog

Change of Catalog Information

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Toulouse School of Graduate Studies Address

The mailing address for the University of North Texas Toulouse School of Graduate Studies is P.O. Box 305459, Denton, TX 76203-5459; phone (940) 565-2383. (See the Contacts at UNT section about contacting other offices.)

Withdrawal of Student for Cause

The university reserves the right to involuntarily withdraw a student in accordance with applicable policies and procedures at any time.

Number 106-3, July 2006

University of North Texas Bulletin (USPS 074-840) is published four times a year, once in the month of May, twice in the month of July and once in the month of September, by the University of North Texas, Division of University Relations, Communications and Marketing, Hurley Administration Building, P.O. Box 311070, Denton, TX 76203-1070. Periodicals postage paid at Denton, TX. POSTMASTER: Send changes of address to University of North Texas Bulletin, Office of Admissions, P.O. Box 311277, Denton, TX 76203-1277.

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The university complies with federal and state equal opportunity laws and regulations, and through its diversity policy declares harassment, which is based on individual differences (including sexual orientation), to be inconsistent with the university's mission and educational goals.

Direct questions or concerns to the Equal Opportunity Office (940) 565-2737, or the Dean of Students Office (940) 565-2648. TDD access: (800) 735-2989.

Electronic Copies of This Catalog

This catalog may be viewed in electronic form on the Internet (www.unt.edu/catsched). For answers to questions or problems with the Internet access to this catalog, please contact the UNT Computing and Information Technology Center Help Desk at (940) 565-2324.

Print Copies of This Catalog

Each enrolled student with a valid UNT ID is eligible to receive one catalog each year beginning July 1.

Date of initial release: July 1, 2006.

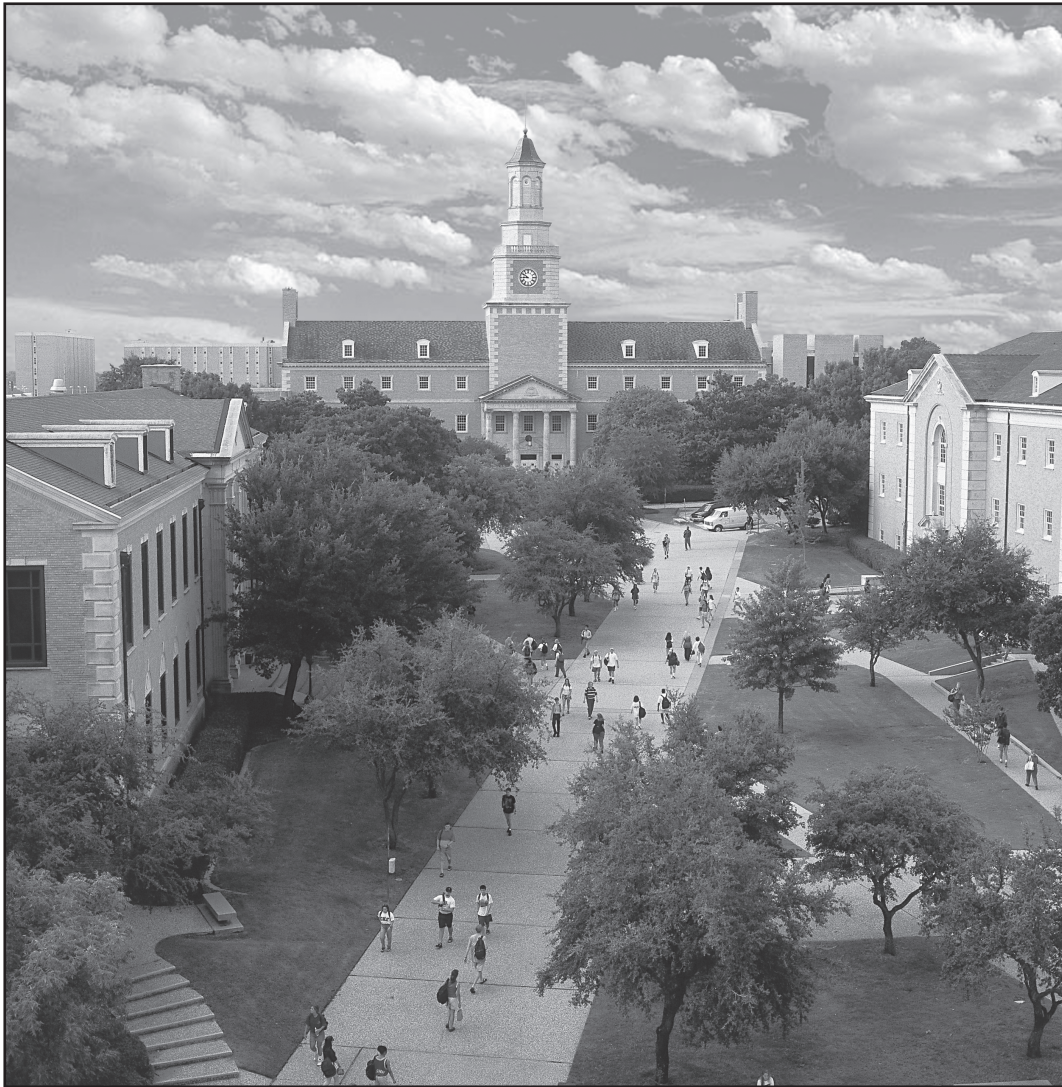
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The University

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The University of North Texas is a student-centered public research university and is the flagship of the UNT System. The university stands as the most comprehensive in the Dallas–Fort Worth region, offering 93 bachelor’s, 111 master’s and 50 doctoral degree programs, many nationally recognized.

UNT is a thriving university with a legacy of excellence in a broad range of academic areas. It is also one of the largest universities in Texas, enrolling more than 32,000 students. Founded in 1890, UNT takes pride in its outstanding faculty, high academic standards and diverse student body. Offering a traditional college experience at an affordable cost, UNT boasts a 19:1 student-faculty ratio and Division I-A athletics. Named one of America’s 100 Best College Buys® for 10 consecutive years, UNT also provides more than 60 centers and institutes which serve the public good.

The university is committed to academic excellence, to student success and to serving as an intellectual resource for the community, state and nation.

Our History

UNT was founded in 1890 as Texas Normal College and Teacher Training Institute. Joshua C. Chilton, the founding president, leased facilities above a hardware store on Denton’s square to establish a teacher training institute. His charge to the faculty at its first assembly remains an important part of UNT’s value system: “It will be our aim to become leaders in the education of the young men and women of Texas, fitting them to creditably fill the most important positions in business and professional circles. We desire the cooperation of

UNT Presidents

The university has been led by 13 presidents:

Joshua C. Chilton (1890-93)
 John J. Crumley (1893-94)
 Menter B. Terrill (1894-1901)
 J.S. Kendall (1901-06)
 W.H. Bruce (1906-23)
 Robert L. Marquis (1923-34)
 W.J. McConnell (1934-51)
 J.C. Matthews (1951-68)
 John J. Kamerick (1968-70)
 John Carter (acting, 1970-71)
 C.C. Nolen (1971-79)
 John Carter (acting, 1979-80)
 Frank E. Vandiver (1980-81)
 Howard W. Smith Jr. (ad interim, 1981-82)
 Alfred F. Hurley (1982-2000)
 Norval F. Pohl (2000-present)

From 1981 until 2000, the president also carried the responsibilities and title of Chancellor of the University and the University of North Texas Health Science Center in Fort Worth. Senate Bill 751 of the 76th Texas Legislature provided for the establishment of the University of North Texas System, and in July 1999, the Texas Higher Education Coordinating Board confirmed formal system status for UNT, including the Denton campus, UNTHSC in Fort Worth and the UNT Dallas Campus (UNT System Center at Dallas). In October 2000, the positions of president and chancellor were officially separated.

The university has had three chancellors:

Frank E. Vandiver (1981)
 Alfred F. Hurley (1981-2002)
 Lee Jackson (2002-present)

On August 24, 2002, the UNT Board of Regents named Alfred F. Hurley Chancellor Emeritus of the UNT System and President Emeritus of the university.

all who believe in higher education and who want to see our state in the very front of intellectual as well as material progress.”

The university has had seven names through the years.

1890 Texas Normal College and Teacher Training Institute
 1894 North Texas Normal College
 1901 North Texas State Normal College
 1923 North Texas State Teachers College
 1949 North Texas State College
 1961 North Texas State University
 1988 University of North Texas

Incoming students choose UNT for the quality of its programs, many of which are nationally ranked. More degree programs at UNT are nationally accredited than at any other university in the Dallas–Fort Worth region (see list of accrediting organizations following the index). UNT “firsts” through the years include:

- First jazz studies program in the U.S., which is consistently ranked the nation’s best.
- First accredited behavioral analysis master’s degree program in the U.S.
- First master’s degree in natural philosophy (now chemistry education) in the U.S.
- First oil and petroleum accounting program in the U.S.
- First patent for a silicon-based ultra-sensitive chemical sensor for use in integrated circuit fabrication.
- First PhD program in art education in the U.S.
- First cooperative master’s degree program in library and information science in the U.S.
- First online school library preparation program in the U.S.
- First all-online master’s degree program in merchandising in the U.S.
- First accredited counseling program in the U.S., which still ranks among the nation’s best.

The Robert B. Toulouse School of Graduate Studies

When Robert B. Toulouse, who served as graduate dean from 1954 to 1982 and provost until 1990, retired, the board of regents renamed the graduate school the Robert B. Toulouse School of Graduate Studies.

His contributions to graduate education made the honor richly deserved. During Toulouse’s tenure as graduate dean, almost every graduate program currently authorized at UNT was established. His leadership role in establishing these programs helped to make UNT the most comprehensive graduate

institution in the region and one of the three largest graduate institutions in the state.

In addition, graduate student enrollment grew from approximately 300 students to more than 5,500, which then represented almost a third of UNT's total enrollment. Toulouse also provided leadership in establishing the Federation of North Texas Area Universities in 1968.

Toulouse's efforts also had an extraordinary effect on the development of research at the university. As dean, he pursued a goal of enhancing research across the entire campus, involving as many professors as possible to build a strong base for attracting external funding. His insight and good judgment in managing the university's limited resources led to major increases in the quality and impact of research at UNT. In this, he laid the foundation for the explosive increase in external research funding in the 1980s.

History of Graduate Education at UNT

Graduate studies at the master's level were first offered at UNT in 1935 in response to an increasing demand from Texas school systems for teachers with more than four years of college education. Master's degrees were first offered in art, biology, chemistry, economics, education, English, physical and health education, and Spanish, with the first master's degrees conferred in 1936.

Beginning in 1946, master's programs were added in other departments and by 1950 the master's degree was available in almost every area in which the institution offered the bachelor's degree.

The Graduate School was established in 1946 as part of a major reorganization of the institution. The Board of Regents approved the first doctoral programs — a doctorate of education in education and a doctor of philosophy in music — in 1950. Today, doctoral programs are offered in all schools and colleges except the School of Merchandising and Hospitality Management. Throughout the development of the graduate program, the pattern has been to build master's programs on the base of well-established undergraduate programs and to build doctoral programs on the base of well-established master's programs.

In recognition of the institution's widening scope in higher education, the Texas Legislature approved that the North Texas State College be changed to North Texas State University in 1961. The university was designated in 1964 by the Governor's Committee on Education Beyond the High School as one of the five major state-supported universities in Texas. In 1968, the Texas College and University System Coordinating Board confirmed the university's mission to offer "top-quality doctoral programs ... in the basic arts and sciences, teacher education, business administration and the fine arts" as well as "cooperative doctoral programs in other fields."

Federation of North Texas Area Universities

A new dimension in graduate education came in 1968 with the establishment of the Federation of North Texas Area Universities. With the guidance of the Texas Higher Education Coordinating Board, the federation was founded to expand and enrich the variety of graduate degrees available to residents of the area by sharing the resources of the University of North Texas and Texas Woman's University in Denton, and Texas A&M University–Commerce.

Master's and doctoral degree programs have been developed that permit students at one of the three participating institutions to complete a portion of their graduate work at either or both of the other two, although a single institution grants the degree. UNT grants eight master's and seven doctoral degrees that are part of the federation consortium. In addition, 16 program committees have been formed to encourage cooperative activities between the participating universities.

Universities Center at Dallas

In 1997 the Federation of North Texas Area Universities assumed the management of the Universities Center at Dallas, formerly the Dallas Education Center. Five universities cooperate in the offering of upper-division undergraduate courses and graduate courses that may be applied to programs and degrees offered by the three principal Federation universities (Texas A&M University–Commerce, Texas Woman's University and UNT) and by the University of Texas at Arlington and the University of Texas at Dallas. At the graduate level, a master's in business administration degree can be completed entirely at the Universities Center at Dallas.

University of North Texas Dallas Campus (UNT System Center at Dallas)

The UNT Dallas Campus offers junior-, senior- and graduate-level courses leading to bachelor's and master's degrees. Certificate programs and courses for career advancement are also provided. Courses and programs are of the same high quality as those offered at UNT in Denton and are taught by faculty from the Denton campus.

Students who enroll at the UNT Dallas Campus must meet the same admissions requirements as students who apply to the UNT campus in Denton. Dallas Campus students earn their degree from UNT. The University of North Texas Dallas Campus is located at 8915 S. Hampton Road, three blocks south of I-20 in Dallas.

UNT Dallas Campus features the region's first virtual library, state-of-the-art classrooms, computer labs with Internet access, and other services to help students achieve success.

Enrollment has increased each year since the campus opened in January 2000. When Dallas Campus

enrollment reaches 1,000 full-time equivalent (FTE) students for one term/semester, UNT-Dallas can be opened as the first public university within the Dallas city limits. The new campus is under construction on 264 acres at Camp Wisdom and Houston School roads, about four miles east of the current location.

For current information about the University of North Texas Dallas Campus, call (972) 780-3600, or visit the UNT Dallas Campus web site at www.unt.edu/dallas.

UNT Health Science Center at Fort Worth

The University of North Texas Health Science Center at Fort Worth educates osteopathic physicians and biomedical scientists and emphasizes education, research and community services that promote and support disease prevention and primary health care.

The center, begun in 1970 as the privately funded Texas College of Osteopathic Medicine (TCOM), became state-assisted and affiliated with the University of North Texas by action of the Texas State Legislature in 1975. The Health Science Center is governed by the University of North Texas Board of Regents. Currently, the Health Science Center's three components are TCOM, the Graduate School of Biomedical Sciences and the School of Public Health.

The graduate school offers a Master of Public Health degree and master's and doctoral degrees in the biomedical sciences with specializations in anatomy and cell biology, biochemistry and molecular biology, microbiology and immunology, pharmacology, and physiology.

Medical students enrolled at TCOM also may acquire research training through enrolling in a joint DO/MS or DO/PhD program in biomedical sciences. Graduate students at UNT or the UNT Health Science Center may enroll at either campus through special arrangements of the respective graduate schools. Joint research and service activities are underway in such areas as aging, health promotion and public health.

At the undergraduate level, UNT and the UNT Health Science Center's Texas College of Osteopathic Medicine offer a joint program in which selected premedical students complete three years on the UNT campus in Denton, then transfer to the medical school in Fort Worth to begin the four-year medical curriculum. The basic science courses taken in the first year of the medical curriculum serve to complete a BA in biological sciences or chemistry or the BA or BS in biochemistry at UNT. Students in this program thus save a year in their medical training, reducing the usual eight-year program to seven.

The Health Science Center campus is a 15-acre, \$71 million medical-care complex in the heart of Fort Worth's cultural district. It is home to the Gibson D. Lewis Health Science Library, where virtually all the world's medical knowledge may be accessed by

students, faculty, and the public through sophisticated medical information systems.

Faculty expertise has fostered the development of five institutes at the UNT Health Science Center: the Texas Institute for Research and Education on Aging, the Substance Abuse Institute of North Texas, the North Texas Eye Research Institute, the Wound Care Institute and the Institute for Forensic Medicine.

Students interested in a graduate program in biomedical sciences or public health at the Health Science Center should contact the Graduate School of Biomedical Sciences or the School of Public Health, UNT Health Science Center, 3500 Camp Bowie Boulevard, Fort Worth, TX 76107, or call (817) 735-2560 or (817) 735-2252.

Academic and Research Programs

- UNT is the most comprehensive graduate and research university in the region, with 107 master's and 50 doctoral-degree majors. Approximately 21 percent of the student body is graduate students.
- UNT's nationally accredited professional programs include behavior analysis, business, chemistry, clinical and counseling psychology, computer sciences, counselor education, hotel and restaurant management, interior design, journalism, library sciences, music, public administration, rehabilitation studies, social work, speech-language pathology and audiology, and the child development laboratory.
- The College of Business Administration is one of the most comprehensive in the region, with an undergraduate enrollment of more than 5,000 students and more than 500 master's and doctoral students. The accounting department enjoys "preferred" status among major corporations, with special strengths in auditing, oil and gas accounting, and taxation.
- The UNT Department of Philosophy and Religion Studies is the leading graduate program in environmental ethics and environmental philosophy both nationally and internationally. The faculty includes the largest concentration of environmental ethics researchers at any institution of higher learning in the world. The program is the home of the Center for Environmental Philosophy and is the publisher of Environmental Ethics Books and the premier journal in the field, *Environmental Ethics*.
- UNT has the highest teacher education admission standards and graduation requirements in the state and among the highest in the nation. The College of Education is fourth in the nation in the number of professional educators graduated each year.
- UNT constitutes one of the largest centers of instructional computing in the nation, encompassing computer sciences — one of the first such programs to be nationally accredited — computer education and cognitive systems, information technologies, and library and information sciences.

- The innovative hospitality management degree program is the only one of its kind in the North Texas region; a master's program was initiated in 1989.
- The UNT College of Music is one of the two largest music schools in the nation and is internationally known for the One O'Clock Lab Band, UNT Symphony, A Cappella Choir, and Center for Experimental Music and Intermedia. Students may gain performance experience on campus in a setting with state-of-the-art sound design in the Lucille "Lupe" Murchison Performing Arts Center, one of a trio of major performance halls in the Dallas–Fort Worth region. In 1986 the college received the Yamaha Award.
- The UNT School of Visual Arts is the nation's largest arts program at a public university and the most comprehensive in the region with a faculty of international stature.
- UNT assists Texas in fostering economic diversification through the University Center for Economic Development and Research, the Professional Development Institute (PDI) accounting and business training programs, the Information Systems Research Center, and the Institute for Petroleum Accounting.
- UNT regularly provides continuing education for a variety of academic, professional and community audiences. The Center for Continuing Education and Conference Management assists faculty, provides GRE and GMAT preparation courses to more than 500 students a year, and offers more than 200 minicourses a year to the general public. The center also works with non-university groups, with as many as 30,000 participants, who use campus and area facilities for their conferences.
- The University of North Texas is a true regional university, serving commuting and resident students. Approximately 5,600 students lived in campus residence halls in fall 2005.

Science, Technology and Research

- Externally funded projects totaled more than \$26.2 million for 2005–2006, with further growth expected in the future.
- The state-of-the-art Science Research Building is dedicated solely to research.
- North Texas has widely recognized strengths in the physical and mathematical sciences, including single atom and small accelerator physics, organometallic chemistry and mathematical image processing.
- Biochemistry, which is shared with UNT's sister institution, the University of North Texas Health Science Center at Fort Worth, is well known for research into critical human health problems.
- The engineering technology program was instrumental in the site selection for the regional Boeing Electronics and Texas Instruments plants.
- The problem-solving approach of the Institute of Applied Sciences helps Texas address its water quality needs.
- Research on how neural networks process and store information is a pioneering effort of the Center for Network Neuroscience.
- UNT is the site of the Texas Academy of Mathematics and Science, a program for early college admission of students drawn from among outstanding high school sophomores; the academy is a nationally unique model of integrating academy and regular university students.

The University's Mission

The University of North Texas is the largest and most comprehensive research and doctoral degree-granting institution in the North Texas area and the flagship of the UNT System. The university is committed to excellence in teaching and the discovery and application of knowledge through research and creative activities. As the educational leader in the North Texas region, the university is dedicated to the development of the area as the number one region in the nation.

The university:

- achieves high-quality instruction, scholarship and service by:
 - fostering excellence and innovation in teaching and learning;
 - supporting research and creative activities that expand knowledge, strengthen undergraduate and graduate programs, and promote the application of knowledge for the benefit of society;
 - assuming a primary leadership role in addressing community needs of the North Texas region and the state; and
 - maintaining academic integrity through free and open inquiry including the examination of values;
- stresses understanding and appreciation of the historical, intellectual, technological, scientific and cultural nature of the search for knowledge;
- promotes the advancement and preservation of the arts;
- nurtures development of students by providing continuing opportunities for intellectual, physical, emotional, social and career growth;
- supports a culturally diverse environment and advocates mutual respect for all members of the university community as they strive for excellence;
- provides a high quality residential environment and opportunities for lifelong learning; and
- enhances access to higher education through the use of emerging information and telecommunication technologies.

The university continues to expand its relationship with the University of North Texas Health Science Center at Fort Worth; to develop the University of North Texas Dallas Campus (UNT System Center at Dallas); and to cultivate partnerships with elementary and secondary schools, community colleges, other universities, businesses, government agencies and nonprofit organizations to improve the quality of education and community life.

The University's Vision

The University of North Texas will be one of the state's top-tier universities — a premier educational, intellectual, research and cultural resource. As the flagship of a multi-institutional university system and the leading university of its region, UNT will be recognized for education, research, creative activities and public service, and for advancing innovations in the enhancement of learning. UNT will be an inclusive and diverse institution with an international perspective, helping to create high-quality graduates, an informed citizenry, and a workforce well prepared for the global economy.

Achieving the Vision

To achieve this vision, the University of North Texas will:

- advance excellence in basic and applied research, original scholarship and artistic activities that expand the core knowledge for future discoveries, lead to new technologies, devise solutions to problems facing society, enhance citizens' quality of life and instill a sense of discovery and creative insight in our students;
- employ its status as a major doctoral degree granting institution and the talents of its nationally and internationally recognized teacher-scholars to support strong undergraduate and graduate academic programs taught by the same faculty and providing research opportunities for students;
- emphasize selected academic programs and create new academic and professional programs that have or can achieve wide recognition for excellence;
- promote excellent, accessible and affordable higher education to the region's growing and demographically diverse population through partnerships with educational entities and the business, public and not-for-profit communities;
- foster a residential learning environment for students living on or near the campus that promotes tradition, instills institutional and societal values, and encourages the development of a lifelong connection to the UNT community;
- lead in offering learners access to education through satellite locations, the Internet and other electronic resources and partnerships with other institutions;
- serve as an important source of lifelong learning, professional education and outreach activities and as a prime venue for artistic performances and exhibitions and sports events; and
- be an essential partner in meeting the expanding needs of the Dallas–Fort Worth region, the largest metropolitan area in the state.

Research

UNT research programs focus on the solutions to problems at national, regional, state and local levels. To implement this approach, the university is developing new facilities specifically designed to provide state-of-the-art capabilities.

External research funding reached \$26,122,207 in the 2005 fiscal year. Of this total, 53.9 percent was for research, 25.2 percent was for instructional projects, 20.3 percent supported public service efforts and 0.7 percent supported student services and other projects. Federal government agencies provided 79.6 percent of the funds, state agency funds amounted to 3.9 percent and private sources (including business and industry) provided 16.5 percent. Specific areas of research are described in the catalog section devoted to each academic unit.

External funding is an essential feature of university research. Many graduate faculty members receive grants and contracts from private foundations and corporations and from federal, state and municipal agencies. These funds are used in support of all forms of research activity, including employment of graduate research assistants. Fellowships are sometimes available in departments that have received federal training grants.

Research is integral to graduate education. It provides the opportunity for a student to demonstrate creative and problem-solving talents in a unique way that is wholly different from the organized classroom experience. Research activity by graduate students, under faculty supervision, is at the heart of the graduate teaching/learning experience. Inquiries about financial support should be made directly to the academic unit in which the student intends to enroll.

UNT has made a consistent commitment to expanding and improving the space and equipment available for research. The 60,000 square-foot Science Research Building provides state-of-the-art facilities for research in the departments of biological sciences, chemistry and physics, and the biochemistry program. The Environmental Education Science and Technology Building hosts the Institute for Applied Sciences and provides unmatched facilities for research, teaching and public outreach activities related to the environment. Together with other specialized laboratories spread throughout the campus, UNT provides high-quality space and equipment to support its teaching, research and service missions.

In addition to funds granted by external sources to support research, funds appropriated by the Texas Legislature in support of research by faculty members of the university are allocated through a peer-review process by a faculty committee of eight members appointed by the Faculty Senate. The committee is chaired by the associate vice president for research. The associate vice president for academic affairs and the dean of the Toulouse School of Graduate Studies are ex-officio members. Faculty research grants are administered through the Office of Sponsored Projects.

Faculty research funds provide equipment, material and part-time support of graduate students and faculty members. For example, a graduate student may be employed as a research assistant in one of the many research projects under way on the campus, generally in the department in which the student is studying for an advanced degree. As part of a research assistantship, students often are able to undertake projects that contribute to completion of their thesis or dissertation requirement.

Results of faculty research include articles in professional and technical journals, published books and the development of new areas of research that may attract funding from sources outside the university.

University Libraries

Library facilities at the University of North Texas function as the nerve center for teaching and academic research. In addition to a major collection of electronic journals, books and databases, five campus facilities house just under 2 million cataloged holdings, including books, periodicals, maps, documents, microforms, audiovisual materials, music scores, full-text journals and books. A branch library is located at the University of North Texas Dallas Campus.

Library Collections

Willis Library holds one of the country's largest music libraries, extensive phonographic disc and tape collections, a broad humanities and social sciences collection, the University Archives, and the Rare Books and Texana collections. Other unique library collections include the private jazz collection of Stan Kenton, Don Gillis, Whit Ozier and Leon Breeden; the private library of Anson Jones, president of the Republic of Texas; Texas county histories; miniatures; and examples of important early publishing, printing and binding styles. The library is also a depository for U.S. and Texas government documents, including the Texas Register. The library also serves as an online morgue (cybercemetery) for government web sites and documents.

The Media Library in Chilton Hall houses a large collection of audiovisual materials, including motion pictures, tapes, recordings and videodiscs, DVDs, videocassettes, 16mm films and audio CDs.

The Science and Technology Library, housed in the Information Sciences Building, emphasizes physics, chemistry, biology, and library science and includes an outstanding collection in mathematics.

The Research Park Library, supporting the College of Engineering, has a collection of journals and materials focused on computer science and engineering, materials science and engineering, electrical engineering and engineering technology. There are two library locations: reference assistance and current periodicals in Room B112; and the library collection, bound periodicals and reserves in Room M130.

The Library Annex houses more than 400,000 lesser-used materials, and the preservation and technical services departments of the University Libraries. Items located in the annex are so noted in the libraries' online catalog and may be requested if needed for research. The Library Annex, located just off Airport Road on Precision, is near the main campus.

Special Services of the Libraries

Through the libraries' membership in TexShare, students with a TexShare library card may borrow materials at college, university and public libraries throughout the state of Texas. Contact library staff for details. Active participation in the AMIGOS Library Services Inc. provides access to a variety of computerized library services, including interlibrary loans, bibliographic database searching and shared cataloging. The libraries have a large number of electronic databases available for public use, both on and off campus, via computer linkage. The UNT Libraries hold a membership in the Center for Research Libraries. The center, which functions as an extension of the local collections, is dedicated to acquiring and lending materials that complement and supplement the collections of the major research libraries of North America. The University Library has been designated a major research library by the U.S. Department of Education.

Computer Services

Centralized computing services that support instruction, research and student learning are provided through Academic Computing Services (ACS). ACS is a division of the Computing and Information Technology Center and is located in Room 119 of the Information Sciences Building. These services include support for a wide range of research computing platforms, student messaging, training, consulting and a university computing help desk. Check the web site at www.unt.edu/helpdesk.

In addition to the services directly supported by Academic Computing Services, computer services are also available from the University Libraries and many college, school and departmental computer support centers. Computer networks are installed in all academic departments, providing connectivity with a

variety of general-purpose and specialized computing equipment. Online courses are offered with support from the Center for Distributed Learning using computing systems supported by the Computing and Information Technology Center.

Student Computing Services

Fourteen general access microcomputer laboratories, housing approximately 700 computers, are available to all students for use of both Windows and Macintosh personal computers. Laser printers are provided in all labs. Approximately 30 additional special-purpose labs serve students in particular disciplines or students living in university residence halls. In addition, all residence hall rooms have connections to the campus network, allowing students to have high-speed access to the Internet on their own computers.

Academic Computing Services provides electronic mail to all students via EagleMail, a web-based e-mail system. EagleMail is used as an official communication medium between the university and students. Other Internet services available to students include personal web page publishing. Many buildings, including the University Union and libraries, have wireless network access, which is available to enrolled students.

Research Computing Support

Academic Computing Services provides support for a variety of microcomputer-based software applications. Site licenses are maintained for microcomputer versions of SPSS, SAS, S-Plus, STATA and Matlab, which provide statistical analysis capabilities.

Several statistical analysis packages, including SAS, SPSS and S-Plus, are provided in many of the general access labs. Academic Computing Services also maintains a multi-node computing cluster to support concurrent execution of long-running user-compiled programs for computation-based research.

The Computing and Information Technology Center also serves as a repository for a substantial body of machine-readable data including the Inter-University Consortium for Political and Social Research (ICPSR) data archives, Standard and Poor's COMPUSTAT and the Center for Research in Security Prices' (CRSP) data sets. The University Libraries also maintain a number of databases and other research materials on CD-ROM servers that are accessible through the campus network.

Consulting, Training and Help Desk Services

Consulting and training are provided by Academic Computing Services to facilitate the use of research and instructional computing facilities by students. A series of short courses is offered each term/semester to allow students to gain the expertise necessary to use campus computer systems effectively.

A number of computer-based training programs are accessible within student laboratories or via the web (www.unt.edu/training). Experienced consultants are available to assist students with technical problems.

The Computing and Information Technology Center (CITC) operates a campuswide help desk service to provide students with information and help on a variety of computing problems (www.unt.edu/helpdesk).

Also, Benchmarks Online CITC's newsletter, (www.unt.edu/benchmarks), is published monthly and serves as an excellent resource for current information systems at UNT.

Accreditation

The University of North Texas is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools [1866 Southern Lane, Decatur, GA 30033-4097; telephone (404) 679-4500] to award bachelor's, master's and doctoral degrees. Inquiries to the commission should relate only to the accreditation status of the institution.

The University of North Texas offers programs accredited by the following organizations.

AACSB International — The Association to Advance Collegiate Schools of Business
 Accreditation Board for Engineering and Technology, Inc.
 Accreditation Commission for Programs in Hospitality Administration
 Accreditation Council for Cooperative Education
 Accrediting Council on Education in Journalism and Mass Communications
 American Chemical Society
 American Library Association
 American Psychological Association
 American Speech-Language-Hearing Association
 Association for Behavior Analysis
 Commission on English Language Program Accreditation
 Computing Accreditation Commission of the Accreditation Board for Engineering and Technology
 Council for Accreditation of Counseling and Related Educational Programs
 Council on Rehabilitation Education
 Council on Social Work Education
 Foundation for Interior Design Education and Research
 National Association for the Education of Young Children
 National Association of Schools of Music
 National Association of Schools of Public Affairs and Administration
 National Council for Accreditation of Teacher Education
 National Recreation and Park Association/American Association of Leisure and Recreation Council on Accreditation
 State Board for Educator Certification
 Technology Accreditation Commission of the Accreditation Board for Engineering and Technology

Addresses of accrediting organizations are printed following the index.

In addition, the University of North Texas offers programs that are approved or recognized by:

American Alliance for Health, Physical Education, Recreation and Dance
Council for Exceptional Children
Educational Leadership Constituent Council
International Reading Association
International Society for Technology in Education
National Association for the Education of Young Children
National Council of Teachers of English
National Council of Teachers in Mathematics

Institutional Memberships

The University of North Texas holds the following memberships.

American Association of State Colleges and Universities
American Council on Education
American College Dance Festival
American Political Science Association
Association of Texas Colleges and Universities
Association of Texas Graduate Schools
Broadcast Education Association
Coalition of Urban and Metropolitan Universities
Conference of Southern Graduate Schools
Council for Chemical Research
Council for Higher Education Accreditation
Council of Public University Presidents and Chancellors
Council of Graduate Schools
Council on Undergraduate Research
Dallas Dance Council
Federation of North Texas Area Universities
National Association of State Universities and Land-Grant Colleges
National Collegiate Honors Councils
Oak Ridge Associated Universities
Society of Cinema Studies
Texas Association of Broadcast Educators
University Film and Video Association

UNT System and University Officers **Board of Regents**

John Robert “Bobby” Ray, Chair (2007), Plano
Burle Pettit, Vice Chair (2007), Lubbock
Marjorie B. Craft (2007), DeSoto
Charles D. Mitchell (2011), Dallas
Robert A. Nickell (2009), Dallas
Al Silva, (2011), San Antonio
C. Dan Smith (2011), Plano
Gayle W. Strange (2009), Denton
Rice M. Tilley Jr. (2009), Fort Worth
Student Regent
Brittany Adams (2007), UNT student

UNT System Officers

Administration

Lee F. Jackson, MPA, Chancellor of the University of North Texas System
Norval F. Pohl, PhD, Vice Chancellor for Academic Affairs and President of the University of North Texas
Ronald Blanck, DO, Vice Chancellor for Health Affairs and President of the UNT Health Science Center at Fort Worth
T. J. “Jack” Morton, JD, Senior Vice Chancellor for Governmental Affairs
Nancy S. Footer, JD, Vice Chancellor and General Counsel
Phillip C. Diebel, BBA, CPA, Vice Chancellor for Finance and Business Affairs
Richard L. Escalante, MA, Vice Chancellor for Administrative Services
Cassandra Berry, BA, Associate Vice Chancellor for Equity and Diversity
Deborah S. Leliaert, MEd, Associate Vice Chancellor for Communications and Marketing

UNT Officers

Administration

Lee F. Jackson, MPA, Chancellor of the University of North Texas System
Norval F. Pohl, PhD, President of the University of North Texas, including the UNT Dallas Campus (UNT System Center at Dallas)
Howard C. Johnson, PhD, Provost and Vice President for Academic Affairs and Interim Vice President for Research and Technology Transfer
Suzanne V. LaBrecque, PhD, Vice Provost and Associate Vice President for Academic Affairs
Philip M. Turner, EdD, Vice Provost for Learning Enhancement
Celia Williamson, PhD, Special Assistant to the Provost and Vice President for Academic Affairs
Richard Rafe, JD, PhD, Senior Vice President for Administration
Phillip C. Diebel, BBA, CPA, Vice President for Finance and Business Affairs
Gregory McQueen, PhD, Senior Vice President for Advancement
Brent E. Davison, BS, Interim Vice President for Development
Bonita C. Jacobs, PhD, Vice President for Student Development
Deborah S. Leliaert, MEd, Vice President for University Relations, Communications and Marketing
Joneel Harris, PhD, Associate Vice President for Enrollment Management
Cassandra Berry, BA, Associate Vice President for Equity and Diversity
John R. Todd, PhD, Interim Associate Vice President for Institutional Research and Accreditation

John Ellis Price, PhD, Vice Provost for the UNT Dallas Campus (UNT System Center at Dallas)

Thomas L. Evenson, PhD, Faculty Executive Assistant to the President

Paul Dworak, PhD, Director of Compliance

Richard Villareal, BS, Director of Athletics

Toulouse School of Graduate Studies

Sandra L. Terrell, PhD, Dean of the Toulouse School of Graduate Studies

Lawrence J. Schneider, PhD, Associate Dean of the Toulouse School of Graduate Studies

Donna Hughes, BAAS, Director of Graduate Services and Graduate Admissions

Administrators of the schools and colleges are listed in their respective sections of this catalog.

The Graduate Council

Ex-Officio Members

Sandra L. Terrell, PhD, Dean of the Toulouse School of Graduate Studies, Chair

Lawrence J. Schneider, PhD, Associate Dean of the Toulouse School of Graduate Studies

Suzanne V. LaBrecque, PhD, Vice Provost and Associate Vice President for Academic Affairs

Warren W. Burggren, PhD, Dean of the College of Arts and Sciences

Oscar N. Garcia, PhD, Dean of the College of Engineering

Kathleen B. Cooper, PhD, Dean of the College of Business Administration

David W. Hartman, PhD, Dean of the College of Public Affairs and Community Service

M. Jean Keller, EdD, Dean of the College of Education

Herman L. Totten, PhD, Dean of the School of Library and Information Sciences

Judith C. Forney, PhD, Dean of the School of Merchandising and Hospitality Management

James Scott, DMA, Dean of the College of Music

Robert Milnes, PhD, Dean of the School of Visual Arts

B. Donald Grose, PhD, Dean of Libraries

Elected Members

Tory J. Caeti, MA, Associate Professor of Criminal Justice

Jacqueline Chanda, PhD, Professor of Visual Arts

Kenneth Sewell, PhD, Professor of Psychology

Grant E. Miles, PhD, Associate Professor of Management

Seifollah Nasrazadani, PhD, Associate Professor of Engineering Technology

Eric M. Nestler, PhD, Professor of Music

Brian O'Connor, PhD, Professor of Library and Information Sciences

Jannon L. Fuchs, PhD, Professor of Biological Sciences

Jose M. Perez, PhD, Professor of Physics

Lisa R. Henry, PhD, Assistant Professor of Anthropology

Lewis A. Taylor, DBA, Regents Professor of Management

Jeanne Tunks, PhD, Assistant Professor of Teacher Education and Administration

The graduate council establishes all university policies governing graduate programs, approves new programs, and approves all substantive changes in existing programs. The membership of the graduate council includes elected faculty members who represent each of the eight districts of the faculty senate, plus two at-large members. Elected faculty members serve staggered, three-year terms on the council and represent the interests of the graduate faculty of the university. Two student members, elected by the graduate student council, represent the interests of graduate students and are elected yearly for a one-year term. Ex-officio members include the graduate dean (who serves as chair), the associate graduate dean, the vice provost, the university librarian, and each of the deans of the schools and colleges. The graduate dean, associate dean, and graduate school staff implement the policies determined by the graduate council.

The Faculty Research Committee

Ex-Officio Members

Howard C. Johnson, PhD, Provost and Vice President for Academic Affairs and Interim Vice President for Research and Technology Transfer

Sandra L. Terrell, PhD, Dean of the Toulouse School of Graduate Studies

Suzanne V. LaBrecque, PhD, Vice Provost and Associate Vice President for Academic Affairs

Elected Members

Yvonne Chandler, PhD, Associate Professor of Library and Information Sciences

Kamakshi Gopal, PhD, Associate Professor of Speech and Hearing Sciences

Robin Henson, PhD, Assistant Professor of Technology and Cognition

Timothy Jackson, PhD, Associate Professor of Music

Sharon Jenkins, PhD, Associate Professor of Psychology

Lisa R. Kennon, PhD, Associate Professor of Merchandising and Hospitality Management

Thomas W. LaPoint, PhD, Professor of Biological Sciences

David C. Tam, PhD, Associate Professor of Biological Sciences

University Diversity Statement

The University of North Texas has a history of seeking to preserve an atmosphere of openness and tolerance. It is committed to maintaining an unpretentious and accepting atmosphere welcoming to anyone who strives to achieve his or her personal best. UNT possesses and values an increasing diversity among the individuals who make up its community. This is one of UNT's greatest strengths.

Individuals within the UNT community are unified by a primary purpose: learning. With that primary purpose in mind, UNT works to advance ideals of human worth and dignity by facilitating open discussion, supporting rational resolution of conflict and encouraging examination of values.

Harassment based on individual differences is inconsistent with UNT's mission and educational goals. Every member of the UNT community enjoys certain human and constitutional rights, including the right to free speech. At the same time, individuals who work, study, live and teach within this community are expected to refrain from behavior that threatens the freedom, safety and respect deserved by every community member in good standing.

Every member of the UNT community must comply with federal and state equal opportunity laws and regulations. Such compliance is not only a given standard, but also is, in fact, a baseline from which our community works to assure fairness and equity to all who pursue their educational and professional goals here.

Students, faculty or staff who have concerns or questions should contact the appropriate office. Students should call the Dean of Students Office at (940) 565-2648. Faculty and staff should call the Equal Opportunity office at (940) 565-2103. TDD access: (800) 735-2989.

Americans with Disabilities Act

The University of North Texas does not discriminate on the basis of an individual's disability and complies with Section 504 of the Rehabilitation Act and the Americans with Disabilities Act in its admissions, accessibility, treatment and employment of individuals in its programs and activities.

The university provides academic adjustments and auxiliary aids to individuals with disabilities, as defined under the law, who are otherwise qualified to meet the institution's academic and employment requirements. For information, call the Office of Disability Accommodation (940) 565-4323, TDD access: (940) 565-2958; or the Equal Opportunity Office at (940) 565-2103; or call the Division of Equity and Diversity (940) 565-2456. TDD access is available through Relay Texas: (800) 735-2989 or (940) 369-8652.

2006 - 2007 Academic Calendar

MAY 2006						JUNE 2006						JULY 2006						AUGUST 2006					
S	M	T	W	T	F	S	M	T	W	T	F	S	M	T	W	T	F	S	M	T	W	T	F
	1	2	3	4	5					1	2						1						1
7	8	9	10	11	12	4	5	6	7	8	9	2	3	4	5	6	7	6	7	8	9	10	11
14	15	16	17	18	19	11	12	13	14	15	16	9	10	11	12	13	14	13	14	15	16	17	18
21	22	23	24	25	26	18	19	20	21	22	23	16	17	18	19	20	21	20	21	22	23	24	25
28	29	30	31			25	26	27	28	29	30	23	24	25	26	27	28	27	28	29	30	31	
												30	31										

SEPTEMBER 2006						OCTOBER 2006						NOVEMBER 2006						DECEMBER 2006					
S	M	T	W	T	F	S	M	T	W	T	F	S	M	T	W	T	F	S	M	T	W	T	F
					1	1	2	3	4	5	6						1						1
3	4	5	6	7	8	8	9	10	11	12	13	5	6	7	8	9	10	3	4	5	6	7	8
10	11	12	13	14	15	15	16	17	18	19	20	12	13	14	15	16	17	10	11	12	13	14	15
17	18	19	20	21	22	22	23	24	25	26	27	19	20	21	22	23	24	17	18	19	20	21	22
24	25	26	27	28	29	29	30	31				26	27	28	29	30	24	25	26	27	28	29	
																		31					

Dates subject to change at any time by official action of UNT. See essc.unt.edu/registrar for final dates and times. Summer dates below are for 2007. Register online at my.unt.edu.

ADMISSIONS	FALL	SPRING	†SUM	3WK1	8WK1	5WK1	10WK	5WK2
Last day for all undergraduate students new to UNT to submit undergraduate admission application for regular registration. ¹	June 15 Fall '07 June 15	Dec. 1	May 11	May 11	May 11	May 15	May 15	June 29
No applications for undergraduate admission will be accepted after this date.	Aug. 21	Jan. 8	May 11	May 11	May 11	May 29	May 29	July 2
Last day for all graduate students new to UNT and all former graduate students (those who have not been enrolled at least once during the 12 consecutive months prior to the semester for which they are seeking admission and/or who have received a degree from UNT since their last enrollment) to submit graduate admission application for regular registration. ²	July 15 Fall '07 July 13	Nov. 15	May 1	May 1	May 1	May 15	May 15	June 15
No applications for graduate admission will be accepted after this date.	Aug. 11	Jan. 2	May 8	May 8	May 8	May 28	May 28	July 2
Last day for graduate students to request change of major in the graduate dean's office prior to registration.	July 15	Nov. 15	May 1	May 1	May 1	May 15	May 15	June 15

¹ Any undergraduate applications received after this deadline must be accompanied by all official transcripts and test scores. These students must meet the stated admission requirements and will register during late registration and pay a late registration fee. Individual exceptions to the stated undergraduate admission requirements cannot be considered after this date.

² Graduate applications received after this deadline must be accompanied by all official transcripts. Graduate students who submit applications after this date, if accepted, will register during late registration and pay a late registration fee. All graduate applicants to the Department of Biological Sciences; Department of English; Department of Psychology; Department of Speech and Hearing Sciences; College of Business Administration; Department of Counseling, Development and Higher Education; Department of Technology and Cognition; Department of Computer Science and Engineering; School of Library and Information Sciences and the School of Visual Arts should refer to college/departmental information in the *Graduate Catalog* for additional admission deadlines.

†SUM=Entire Summer Session, 3WK1 = 3-week 1, 8WK1=8-week 1, 5WK1= 5-week 1, 10WK=10-week, 5WK2=5-week 2

JANUARY 2007							FEBRUARY 2007							MARCH 2007							APRIL 2007							
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	
	1	2	3	4	5	6					1	2	3					1	2	3		1	2	3	4	5	6	7
7	8	9	10	11	12	13	4	5	6	7	8	9	10	4	5	6	7	8	9	10	8	9	10	11	12	13	14	
14	15	16	17	18	19	20	11	12	13	14	15	16	17	11	12	13	14	15	16	17	15	16	17	18	19	20	21	
21	22	23	24	25	26	27	18	19	20	21	22	23	24	18	19	20	21	22	23	24	22	23	24	25	26	27	28	
28	29	30	31				25	26	27	28				25	26	27	28	29	30	31	29	30						

MAY 2007							JUNE 2007							JULY 2007							AUGUST 2007								
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S		
		1	2	3	4	5						1	2		1	2	3	4	5	6	7					1	2	3	4
6	7	8	9	10	11	12	3	4	5	6	7	8	9	8	9	10	11	12	13	14	5	6	7	8	9	10	11		
13	14	15	16	17	18	19	10	11	12	13	14	15	16	15	16	17	18	19	20	21	12	13	14	15	16	17	18		
20	21	22	23	24	25	26	17	18	19	20	21	22	23	22	23	24	25	26	27	28	19	20	21	22	23	24	25		
27	28	29	30	31			24	25	26	27	28	29	30	29	30	31					26	27	28	29	30	31			

IMPORTANT CLASS DAYS AND COMMENCEMENT

	FALL	SPRING	SUM	3WK1	8WK1	5WK1	10WK	5WK2
Classes begin. During the summer term/semester, classes meet four days a week, Monday through Thursday, with Fridays free, unless otherwise indicated. Final examinations are given on Thursday for 3WK1 and on Friday for other summer sessions. Evening and weekend classes are also available.	Aug. 28	Jan. 16	May 14	May 14	May 14	June 4	June 4	July 9
12th class day (for fall/spring), or equivalent for summer sessions.	Sept. 11	Jan. 29	May 30	May 15	May 22	June 7	June 13	July 12
Midsemester.	Oct. 17	Mar. 7	June 21	May 21	June 11	June 19	July 5	July 24
Pre-Final Week.	Dec. 2- Dec. 8	Apr. 28- May 4	—	—	—	—	—	—
Final Examinations.	Dec. 9- Dec. 15	May 5- May 11	Aug. 10	May 31	July 6	July 6	Aug. 10	Aug. 10
Session ends.	Dec. 15	May 11	Aug. 10	May 31	July 6	July 6	Aug. 10	Aug. 10
Term/semester ends.	Dec. 15	May 11	Aug. 10	Aug. 10	Aug. 10	Aug. 10	Aug. 10	Aug. 10
Commencement.	Dec. 16	May 12	Aug. 11	Aug. 11	Aug. 11	Aug. 11	Aug. 11	Aug. 11

SCHEDULE CHANGES

Student-requested schedule changes may be made.	Aug. 28- Sept. 1	Jan. 15- Jan. 19	May 14	May 14	May 14	June 4	June 4	July 9
Last day for change of schedule other than a drop.	Sept. 1	Jan. 19	May 14	May 14	May 14	June 4	June 4	July 9
Beginning this date a student who wishes to drop a course must first receive written consent of the instructor.	Sept. 12	Jan. 30	May 31	May 16	May 23	June 8	June 14	July 13
Last day for change in pass/no pass status.	Oct. 6	Feb. 23	June 22	May 17	June 5	June 14	June 27	July 19
Last day to drop a course or withdraw from the university with a grade of W for courses a student is not passing. After this date a grade of WF may be recorded.	Oct. 6	Feb. 23	June 22	May 17	June 5	June 14	June 27	July 19
Beginning this date instructors may drop students with a grade of WF for nonattendance.	Oct. 9	Feb. 26	June 25	May 18	June 6	June 15	June 28	July 20

STUDENT DEVELOPMENT AND RESIDENCE HALLS

	FALL	SPRING	SUM	3WK1	8WK1	5WK1	10WK	5WK2
Halls open. (Check with housing for opening times.)	Aug. 20	Jan. 10	May 12	May 12	May 12	June 2	June 2	July 7
Halls close (check out day).	Dec. 15	May 11	Aug. 10	June 1	July 6	July 6	Aug. 10	Aug. 10

ORIENTATION AND REGISTRATION BY SEMESTER

Dates subject to change at any time by official action of UNT. See essc.unt.edu/registrar for final dates and times. The fall semester begins the 2006-07 academic year. Register online at my.unt.edu.

FALL 2006

- April 3–July 31** Early registration for fall 2006. See *Schedule of Classes*.
For additional information about orientations listed below, see www.unt.edu/orientation or contact the Office of New Student and Mentoring Programs at (940) 565-4198.
- April 28, Fri.** **Early Eagle Transfer Orientation.** For transfer students new to UNT for fall 2006. Pre-orientation sign-up and fee required. See www.unt.edu/orientation.
- June/July/August** **Orientation required for all undergraduate students new to UNT for fall 2006.** Those students who do not attend Orientation may not be allowed to enroll. Pre-orientation sign-up and fee required. See www.unt.edu/orientation.
- New Student Orientation**
For beginning freshmen new to UNT for fall 2006. Pre-orientation sign-up and fee required. See www.unt.edu/orientation.
- | | |
|-----------------------------------|-----------------------------------|
| June 6-8, Tues.-Thurs., Session 1 | July 12-14, Wed.-Fri., Session 5 |
| June 11-13, Sun.-Tues., Session 2 | July 23-25, Sun.-Tues., Session 6 |
| June 14-16, Wed.-Fri., Session 3 | July 26-28, Wed.-Fri., Session 7 |
| June 25-27, Sun.-Tues., Session 4 | Aug. 21-22, Mon.-Tues., Session 8 |
- Transfer Experience**
For transfers with fewer than 30 hours. Pre-orientation and sign-up fee required. See www.unt.edu/orientation.
- | | |
|-----------------------|------------------------|
| June 14-16, Wed.-Fri. | July 23-25, Sun.-Tues. |
|-----------------------|------------------------|
- Transfer Orientation**
For transfer students new to UNT for fall 2006. Pre-orientation sign-up and fee required. See www.unt.edu/orientation.
- | | |
|-----------------------------------|-----------------------------------|
| June 23, Fri., Drive-In Session 1 | Aug. 4, Fri., Drive-In Session 4 |
| July 7, Fri., Drive-In Session 2 | Aug. 23, Wed., Drive-In Session 5 |
| July 21, Fri., Drive-In Session 3 | |
- Aug. 14-24, Mon.-Thurs.** Schedule revision for all early-registered students who completed payment arrangements by Aug. 1, 2006.
- Aug. 21, Mon.** 8:30 a.m. — **Orientation program for all new undergraduate international students**, Eagle Student Services Center, Room 255.
1:30 p.m. — **Orientation program for all new graduate international students**, Eagle Student Services Center, Room 255.
3:30 p.m. — General faculty convocation, Lyceum, University Union.
- Aug. 21-24, Mon.-Thurs.** Registration for continuing students and for new and former graduate students. (For refund information see Financial Information section of the appropriate catalog.)
- Aug. 22, Tues.** 8 a.m. — Orientation for new faculty, University Union. (Departmental and division meetings should not be scheduled at this time.)
- Aug. 23, Wed.** 9 a.m. — Orientation for new faculty continues, University Union. (Departmental and division meetings should not be scheduled at this time.)
- Aug. 24, Thurs.** 4 - 6 p.m. — **Orientation for new graduate students in all degree programs and new non-degree students**, Lyceum, University Union.
- Aug. 24-25, Thurs.-Fri.** 8 a.m. - 4 p.m. — Orientation program for all Teaching Assistants (TA) and Teaching Fellows (TF), Lyceum, University Union. New TA/TFs must attend.
- Aug. 25, 28-30, Fri., Mon.-Wed.** Late registration. Fee required. (See *Schedule of Classes* for details.)

SPRING 2007

- Oct. 23-Nov. 27** Early registration for spring 2007. See *Schedule of Classes*.
- Dec. 8, Fri.** **Early Eagle Transfer Orientation.** For transfer students new to UNT for spring 2007. Pre-orientation sign-up and fee required. See www.unt.edu/orientation.
- Jan. 1 - 11, Mon.-Thurs.** Schedule revision for all early-registered students who completed payment arrangements by Dec. 5, 2006.
- Jan. 8-11, Mon.-Thurs.** Registration for continuing students and for new and former graduate students. (For refund information see Financial Information section of the appropriate catalog.)
- Jan. 8, Mon.** 8:30 a.m. — **Orientation program for all new undergraduate international students**, Eagle Student Services Center, Room 255.
1:30 p.m. — **Orientation program for all new graduate international students**, Eagle Student Services Center, Room 255.
- Jan. 9, Tues.** 9 a.m. — **Orientation required for all undergraduate students new to UNT for spring 2007**, Main Auditorium. Those students who do not attend Orientation may not be allowed to enroll. Pre-orientation sign-up and fee required. See www.unt.edu/orientation.
- Jan. 10, Wed.** 9 a.m. — **Orientation required for all undergraduate students new to UNT for spring 2007.** Those students who do not attend Orientation may not be allowed to enroll. Pre-orientation sign-up and fee required. See www.unt.edu/orientation.
- Jan. 11, Thurs.** 4 p.m. - 6 p.m. — Orientation for new graduate students in all degree programs and new non-degree students, Lyceum, University Union.
- Jan. 11-12, Thurs.-Fri.** 8 a.m. - 4 p.m. — Orientation program for all Teaching Assistants (TA) and Teaching Fellows (TF), Lyceum, University Union. New TA/TFs must attend.
- Jan. 12, 15-17, Fri., Mon.-Wed.** Late registration. Fee required. (See *Schedule of Classes* for details.)

SUMMER 2007 – SUM, 3WK1 AND 8WK1

- Apr. 2 - 30** Early registration for summer 2007 sessions SUM, 3WK1 and 8WK1. See *Schedule of Classes*.
- May 4, Fri.** 9 a.m. — Orientation required for all undergraduate students new to UNT for summer 2007. Those students who do not attend Orientation may not be allowed to enroll. Pre-orientation sign-up and fee required. See www.unt.edu/orientation.
Registration for all undergraduate students new to UNT who attended Orientation.
- May 9-11, Wed.-Fri.** Schedule revision for all early-registered students who completed payment arrangements by May 1, 2007.
- May 10-11, Thurs.-Fri.** 8 a.m. - 3 p.m. — New international students (undergraduate and graduate): Mandatory online orientation and document check in, Kendall Hall, Room 103.
Registration for continuing students and for new and former graduate students. (For refund information see Financial Information section of the appropriate catalog.)
- May 12-14, Sat.-Mon.** Late registration. Fee required. (See *Schedule of Classes* for details.)

SUMMER 2007 – 5WK1 AND 10WK

Apr. 2-30	Early registration for summer 2007 sessions 5WK1 and 10WK. See <i>Schedule of Classes</i> .
May 9-31, Wed.-Thurs.	Schedule revision for all early-registered students who completed payment arrangements by May 1, 2007.
May 30, Wed.	10 a.m. — New international students (undergraduate and graduate): Mandatory orientation and document check in, Kendall Hall, Room 102.
May 30-31, Wed.-Thurs.	Registration for continuing students and for new and former graduate students. (For refund information see Financial Information section of the appropriate catalog.)
May 31, Thurs.	9 a.m. — Orientation required for all undergraduate students new to UNT for summer 2007. Those students who do not attend Orientation may not be allowed to enroll. Pre-orientation sign-up and fee required. See www.unt.edu/orientation . Registration for all undergraduate students new to UNT who attended Orientation.
June 1-4, Fri.-Mon.	Late registration. Fee required. (See <i>Schedule of Classes</i> for details.)

SUMMER 2007 – 5WK2

Apr. 2 – June 18	Early registration for summer 2007 session 5WK2. See <i>Schedule of Classes</i> .
June 28 – July 5, Thurs.-Thurs.	Schedule revision for all early-registered students who completed payment arrangements by June 19, 2007.
July 2, Mon.	8 a.m. - 3 p.m. — New international undergraduate students: Mandatory online orientation and document check in, Kendall Hall, Room 103.
July 3, Tues.	9 a.m. — Orientation required for all undergraduate students new to UNT for summer 2007. Those students who do not attend Orientation may not be allowed to enroll. Pre-orientation sign-up and fee required. See www.unt.edu/orientation . Registration for all undergraduate students new to UNT who attended Orientation.
July 2-3, Mon-Tues.	8 a.m. - 3 p.m. — New international graduate students: Mandatory online orientation and document check in, Kendall Hall, Room 103.
July 3-5, Tues.-Thurs.	Registration for continuing students and for new and former graduate students. (For refund information see Financial Information section of the appropriate catalog.)
July 6-9, Fri.-Mon.	Late registration. Fee required. (See <i>Schedule of Classes</i> for details.)

HOLIDAYS AND EVENTS

Fall 2006

Aug. 18-Aug. 20	Eagle Camp (fall semester only).
Aug. 20	First Flight begins (fall semester only).
Aug. 25	New Student Convocation (fall semester only; 11 a.m., UNT Coliseum).
Sept. 4	Labor Day – No classes
Sept. 30	Family Weekend
Oct. 21	Homecoming
Nov. 23-24	Thanksgiving – University closed

Spring 2007

January 15	Martin Luther King, Jr. Day – University closed
March 19-25	Spring Vacation – University closed
April 7-8	Easter – Classes between 8 a.m. and 5 p.m. meet on Friday. Classes after 5 p.m. and all Saturday classes are dismissed.
April 13	Honors Day
April 20	University Day (North Texas Day)

Summer 2007

May 28	Memorial Day – University closed
July 4	Independence Day – University closed

Admission policies are subject to periodic review. For additional information and changes impacting fall, see www.gradschool.unt.edu.

Admission Application

Applications must be submitted online at www.applytexas.org. Application is made through the Toulouse School of Graduate Studies.

Admission Application Fee

U.S. citizens and permanent resident aliens applying to the University of North Texas Toulouse School of Graduate Studies must pay a \$50 non-refundable admission application fee. The fee must be paid in U.S. dollars.

International students applying to the University of North Texas Toulouse School of Graduate Studies must pay a \$75 non-refundable admission application fee. The fee must be paid in U.S. dollars.

Admission applications will not be processed until after the application fee is received. Admission decisions will be made after all academic credentials are received and evaluated.

Contact the Toulouse School of Graduate Studies for more information at (940) 565-2636, (888) UNT-GRAD, Dallas-Fort Worth metro (817) 267-3731, or by e-mail at gradadmission@unt.edu.

Admission Deadlines

The following are deadlines for submission of complete application materials for all students seeking on-time registration *except* those applying for admission to programs with earlier deadlines (see departmental information).

Fall 2006

- July 15, 2006, for classes beginning Aug. 28, 2006

Spring 2007

- Nov. 15, 2006, for classes beginning Jan. 16, 2007

Summer 2007

- May 1, 2007, for classes beginning May 14, 2007
- May 15, 2007, for classes beginning June 4, 2007
- June 15, 2007, for classes beginning July 9, 2007

Fall 2007

- July 13, 2007, for classes beginning Aug. 27, 2007

Students who submit applications after these dates, if accepted, will have to register during the late registration period and pay a late registration fee. Admission deadlines are subject to change. See www.tsgs.unt.edu for the most current information.

Requirements for Admission to the Toulouse School of Graduate Studies

General Admission Requirements

Applications for graduate studies are made through the Toulouse School of Graduate Studies, regardless of degree program.

All applicants for admission to the Toulouse School of Graduate Studies must meet the following requirements, whether or not admission to a specific degree program is sought.

1. The applicant must hold a bachelor's degree or its equivalent from a regionally accredited institution.
2. Specific grade point average (GPA) requirements for certification-only, non-degree and degree-seeking students follow. The GPA is calculated by dividing the total number of grade points earned by the total number of semester hours attempted (A equals four grade points, B equals three, C equals two, D equals one, F equals zero).

a. Non-Degree, Teacher Certification/Endorsement and Graduate Academic Certificate-Only Students.

The applicant must have at least a 3.0 GPA on the last 60 undergraduate semester hours of work prior to receiving the bachelor's degree or a 2.8 GPA on all undergraduate work used to complete the bachelor's degree to receive unconditional admission to the Toulouse School of Graduate Studies. Applicants who have already completed a master's degree must have at least a 3.4 GPA on the master's or meet the undergraduate GPA standards listed above to be admitted unconditionally.

Applicants with a GPA between 2.8 and 3.0 on the last 60 undergraduate semester hours prior to receiving the bachelor's degree, or an overall undergraduate GPA between 2.6 and 2.8, or a GPA between 3.0 and 3.4 on a completed master's degree, may be considered by individual review by the graduate dean for provisional admission.

Applicants with a GPA below 2.8 on the last 60 semester hours and with an overall undergraduate GPA below 2.6, or below 3.0 on a completed master's degree are not eligible for admission to graduate study.

Non-degree and certification-only students who meet the minimum GPA requirements for admission to graduate studies are not required to submit standardized admission test scores. Graduate Academic Certificate programs may have additional admission requirements to be eligible for the certificate. Consult the Graduate Academic Certificate program director for details.

- b. **Degree-Seeking Students.** The applicant must have at least a 3.0 GPA on the last 60 undergraduate semester hours of work prior to receiving the bachelor's degree or a 2.8 GPA on all undergraduate work used to complete a bachelor's degree to

be considered for unconditional admission to the Toulouse School of Graduate Studies for master's study. Applicants who have already completed a master's degree must have at least a 3.4 GPA or meet the undergraduate GPA standards listed above to be admitted unconditionally for a second master's degree or doctoral study.

All students seeking admission to a graduate degree program are required to meet a standardized admission test score requirement. Some programs may require specialized sections of a standardized exam (e.g., the GRE writing test). Programs require other materials (e.g., a writing portfolio, an art portfolio or an audition). For the applicable standardized admission test and additional admission requirements, contact the academic program or the Toulouse School of Graduate Studies.

Requirements for admission to specific degree programs may differ from the minimum requirements for admission to the School of Graduate Studies. Specific requirements for admission to a degree program may be found in the appropriate departmental section of the *Graduate Catalog*. Admission to the Toulouse School of Graduate Studies does not imply admission to a degree program.

Applicants with a GPA between 2.8 and 3.0 on the last 60 undergraduate semester hours prior to receiving the bachelor's degree, or an overall undergraduate GPA between 2.6 and 2.8, or a GPA between 3.0 and 3.4 on a completed master's degree may apply to the School of Graduate Studies and be considered by individual review by the department for provisional admission.

Applicants with a GPA below 2.8 on the last 60 semester hours prior to receiving the bachelor's degree and with an overall undergraduate GPA below 2.6, or below 3.0 on a completed master's degree are not eligible for admission to graduate study.

3. All students seeking admission to a graduate degree program are required to meet a standardized admission test score requirement. Some programs may require specialized sections of a standardized exam (e.g., the GRE writing test). Degree programs may require other materials (e.g., a writing portfolio, an art portfolio or an audition). For standardized admission test and additional admission requirements, contact the academic program or the Toulouse School of Graduate Studies.
4. The applicant may be required to take entrance examinations, either oral, written or both, before admission to the Toulouse School of Graduate Studies is granted.
5. The university requires any applicant from a foreign country who is admitted to the university to demonstrate satisfactory proficiency in oral and written English prior to beginning course work. Prospective applicants should inquire at the nearest

American Embassy, Consulate or Information Center to arrange for whatever language examination may be required.

6. To be considered for admission, the applicant should file the following official credentials with the dean of the Toulouse School of Graduate Studies:

- a. complete official transcripts from all colleges or universities attended,
- b. an application for admission to the Toulouse School of Graduate Studies,
- c. official scores from the testing service on the required entrance test (see below), and
- d. the application fee.

The mailing address for the University of North Texas Toulouse School of Graduate Studies is P.O. Box 305459, Denton, TX 76203-5459.

7. An applicant who has attempted graduate work at another institution within the six-year period immediately prior to first enrollment in the Toulouse School of Graduate Studies of UNT, but who has not received a graduate degree, will be required to make up any grade point deficiency below a B average either at the institution at which graduate work was attempted or at UNT. (See "Time Limitations" in the Master's Degree Requirements section for details concerning validity of previous graduate work.)

8. Admission to the Toulouse School of Graduate Studies does not imply admission to candidacy for a graduate degree.

9. Applicants for admission are furnished written notification of their admission status by the dean of the Toulouse School of Graduate Studies. Statements by other university officers concerning the applicant's admissibility are not valid until confirmed by the graduate dean in writing.

10. Students who hold a bachelor's degree from a regionally accredited institution and who wish to pursue further study at the undergraduate level or to obtain a second bachelor's degree must apply for admission to the university through the Toulouse School of Graduate Studies.

Other Admission Requirements

In addition to meeting the general requirements stated above, applicants for admission to any specific degree program also must meet the following requirements.

1. The applicant for graduate study ordinarily must have completed no fewer than 24 semester hours of undergraduate work in the intended major field, 12 of which must be advanced. In certain fields this requirement has been modified. (Refer to departmental requirements.)

2. An applicant desiring to pursue graduate work in any field and whose undergraduate record does not show completion of the courses prerequisite to this major will be required to make up such deficiencies in a manner prescribed by the student's major department.
3. Students wishing to change from one major field to another must make application in the office of the graduate dean and must meet all specific program admission requirements for the new major.

Required Standardized Admissions Test

All students seeking a graduate degree are required to meet a standardized admission test score requirement. Only official score reports from the testing service are acceptable. For specific advanced test requirements in certain fields, consult subsequent sections of this catalog that describe individual programs.

For master's and doctoral degree-seeking students, a standardized admission test score must be submitted or the alternative criteria satisfied no later than the first term/semester of enrollment in a graduate degree program. Some departments require the submission of scores prior to admission and beginning course work. Check the appropriate department section of this catalog for further information.

Until the admission test requirement is met or the alternative criteria satisfied, the graduate student is granted provisional admission only. If the test requirement is not met by the end of the first term/semester of enrollment, provisional admission will be canceled and the student will be limited to taking undergraduate courses for undergraduate credit only for one term/semester after their provisional term/semester. The student will not be allowed to register for any courses in subsequent terms/semesters until the admission test requirement is satisfied. The student can be reinstated to graduate study and to full admission status to the graduate degree program when the test requirement for admission to the degree program has been met.

The following procedures govern provisionally admitted students who have not taken the appropriate standardized test.

Students provisionally admitted to a degree program in the fall, spring, or summer term/semester without the standardized test scores must submit acceptable test scores prior to the completion of their first term/semester of enrollment. Early registration for subsequent terms/semesters will not be permitted if standardized test scores are not received from the appropriate testing service prior to early registration or the alternative criteria are not satisfied. Regular registration for subsequent terms/semesters also will be blocked unless the standardized test provision is met.

In no case may the student who has not met the standardized admission test requirement or alternative

criteria (a) be admitted to candidacy for any degree, (b) file application to receive such degree, or (c) be permitted to enroll in such courses as thesis, dissertation, problem in lieu of thesis, internship, practicum, etc.

Admission of Continuing Students

Continuing students are those who have been officially enrolled at UNT at least once during the 12 consecutive months **prior** to the term/semester of planned enrollment and/or have not received a degree during the same period. Students who receive a degree and reapply to the university are considered new graduate students.

Continuing students do not need to reapply to the Toulouse School of Graduate Studies to enroll if they meet all of the following conditions:

1. have not received a degree from UNT since last enrollment,
2. will re-enroll in the same major as when last enrolled, and
3. do not have any current blocks on their record, i.e., admission test or academic.

Students meeting *all* of these conditions are eligible for web registration during early registration or *regular registration*. Instructions are available in the *Schedule of Classes*.

Students who are unsure about whether they meet all of the above conditions for re-enrollment should contact the Toulouse School of Graduate Studies prior to the registration period for further information.

Readmission of Graduate Students

Students who previously have been admitted to the Toulouse School of Graduate Studies but who have not enrolled here at least once during the 12 consecutive months **prior** to the term/semester of planned enrollment must follow these re-enrollment procedures:

1. file an admission application,
2. pay the application fee (if applicable), and
3. submit transcripts from all colleges attended (if any) since leaving UNT, showing eligibility to re-enroll at each institution.

Former students who have not enrolled elsewhere since leaving UNT and who are in good academic standing are required to submit an admission application and application fee (if applicable).

Preliminary Admission of Seniors to Graduate Study

Seniors within 12 semester hours of graduation may apply to the graduate dean for permission to take courses to be applied toward the master's degree,

provided that at the time of application they appear to be eligible for admission to the Toulouse School of Graduate Studies and that the specific courses are approved by the dean in advance of registration. A student in this status may not enroll for a load exceeding the maximum permitted for graduate students. Preliminary admission of seniors to the Toulouse School of Graduate Studies remains provisional for up to a maximum of two terms/semesters. If the student has not completed the bachelor's degree during this period, provisional admission to the Toulouse School of Graduate Studies will be canceled. When the bachelor's degree has been awarded, the applicant's undergraduate record will be examined to determine eligibility for graduate study.

Courses Taken for Doctoral Credit by Master's Degree Students

Students completing the master's degree at UNT who plan to continue work toward the doctorate are required to submit application for readmission to the Toulouse School of Graduate Studies in doctoral status. Those who wish to begin taking courses to be credited on the doctorate prior to receiving the master's degree must declare this intention in the office of the graduate dean at the time of registration in such status so that doctoral work may receive proper credit. Final acceptance of such work will not be granted until the student has secured full admission to a specific doctoral program of study.

Requirements for a Second Bachelor's Degree

To be eligible for a second bachelor's degree, a student must meet all current catalog requirements for the second degree, including 12 hours of advanced courses in a field different from the major for the first bachelor's degree. Students who hold a bachelor's degree from a regionally accredited institution and who wish to obtain a second bachelor's degree must meet the same standards and apply for admission as graduate students in the same manner outlined previously in this section.

Admission to Non-Degree Status

The university recognizes that some students may wish to be admitted to the Toulouse School of Graduate Studies for the purpose of taking courses not necessarily leading to an advanced degree (i.e. certification). Admission to the Toulouse School of Graduate Studies will be granted subject to the following provisions.

1. The applicant must meet all of the *general* admission requirements described above.

2. The student in this status is required to receive *graduate* credit in all graduate (5000- and 6000-level) courses taken, and must maintain an average of B on all such courses attempted. Non-degree students are entitled to enroll in any graduate-level class that is not restricted.

3. A student admitted to non-degree or certification-only status has no assurance that work completed under this status will be applicable toward degree requirements should he or she subsequently be admitted to a degree program at UNT. **A maximum of 12 semester hours earned prior to admission to a degree program may be counted toward degree requirements. Successful completion of graduate courses by non-degree or certification-only students does not obligate the university to grant admission to a degree program at a later date.** When all general and specific requirements for admission to a degree program have been met, a student may request that a change of major application be forwarded to the degree program area for evaluation.

4. A student who wishes to change from non-degree or certification-only status to degree status must have standardized admission test scores on file in the Toulouse School of Graduate Studies at the time the application is submitted. In other words, students will not be allowed to change from non-degree or certification-only status to degree status without having a standardized admission test score at the time they apply for admission to a degree program.

5. International students are not eligible to apply for admission to non-degree status.

6. Enrollment for graduate credit in courses in the College of Business Administration must be approved in advance of registration by the College of Business Administration and is limited to 12 hours.

Admission Requirements for Students Who Change Major

For students who wish to change from one major to another major at UNT, a change of major form must be filed in the Toulouse School of Graduate Studies. No change of major will be accepted until the student has met the standardized admission test requirement for the intended major. The applicant will go through the same admission process as any new student applying for admission to a UNT graduate program. The student's file will be sent for approval to the graduate adviser in the proposed major.

Conditional Admission of Students with Low Grade Point Average

For students who wish to pursue a graduate-level degree in any area of the university (except the College

of Business Administration), but who do not meet the Toulouse School of Graduate Studies grade point average (GPA) entrance requirements, the following regulations apply.

1. The student can complete a 15-hour program of 3000- or 4000-level courses for undergraduate credit beyond the bachelor's degree to demonstrate the ability to undertake graduate-level work. Specific courses are chosen in consultation with the graduate adviser of the intended major department and are approved by the graduate dean. A grade of A or B is required in each course. Courses taken at another institution will only be included in the 15 hours in exceptional cases with the approval of the intended major department and the graduate dean. Courses taken to qualify for admission cannot be used to fulfill graduate degree requirements.

2. The student must complete and submit scores from the appropriate standardized admission test specified by the intended major department *prior* to being admitted to a graduate degree program and beginning graduate-level work. For students desiring admission to a degree in the School of Library and Information Sciences, the standardized admission test score must be submitted prior to beginning the 15-hour program.

For students seeking admission to a master's degree program in the College of Business Administration who are unable to meet the grade point entrance requirement of the Toulouse School of Graduate Studies and the entrance requirements of the College of Business Administration, the following regulations apply.

1. The student must submit a GMAT score. The GMAT must have been taken within the last five years.
2. The student must not have been in a degree program for at least five years prior to the time admission is sought.

3. The student must have completed the undergraduate business core (or equivalents) including MATH 1190, ECON 1100 and 1110, ACCT 2010 and 2020, BCIS 3610, DSCI 3710, MGMT 3820, MKTG 3650, FINA 3770, and BLAW 3430.

4. The student must complete 36 hours of additional undergraduate course work at UNT beyond the undergraduate business core. The specific courses to be taken will be determined by the master's adviser from the department of the student's intended major with the following restrictions:

- a. no more than 12 semester hours may be taken outside the College of Business Administration;
- b. no more than 24 hours may be taken in a major field;
- c. all hours must be completed with a grade of C or better; and

- d. the student will be dropped from the program for unsatisfactory progress when he or she has received three Cs or two grades below a C in any course work taken at UNT. For purposes of this rule, the first grade received in a course will be counted.

5. Upon completion of the qualifying program, submitting the admission test score (GMAT) and other admission materials to the College of Business, a student may apply for admission to a master's program in the College of Business Administration.

Academic Fresh Start

For students who were admitted to a Texas public university under the Academic Fresh Start law, earned a baccalaureate degree, and desire to apply for admission to a postgraduate or professional program, the graduate school will consider only the grade point average of the applicant that was completed after enrollment under this law, along with the other standard admissions criteria detailed in this catalog.

International Students

Applicants who do not hold either U.S. citizenship or U.S. permanent resident alien status in the U.S. should apply for admission by submitting a completed International Student Application for Admission. Students may choose from these types of admission:

English Language Study Only

1. Intensive English Language Institute (IELI) Only.

English Language Study/Conditional Admission

1. IELI plus UNT Undergraduate.
2. IELI plus UNT Graduate.

Direct UNT Admission

1. Undergraduate with TOEFL or other acceptable proof of English language proficiency.
2. Graduate with TOEFL or other acceptable proof of English language proficiency.

UNT applicants should apply at least eight months before the anticipated enrollment date and should arrange to have test scores and transcripts in the International Admissions Office at least six months before the enrollment date. Verification of credentials also may be required. If transferring from any college or university, applicants must meet all normal UNT transfer admission requirements as determined and evaluated by the International Admission office. Specific requirements are detailed below.

UNT will not issue immigration documents for student visas until all admission credentials and financial support documents have been received and approved. For more information, see the *International Student Information* booklet available at www.international.unt.edu and from International Admissions, Kendall Hall, Room 173.

English Language Proficiency Minimum Requirements	
Proficiency Measure	Score Required
CAE (Certificate in Advanced English, Level 4)	B or higher
CPE (Certificate of Proficiency in English, Level 5)	C or higher
SAT II-E	968 or higher
IELTS (International English Language Testing System)	Overall B and 6.5 or above
TOEFL (Test of English as a Foreign Language, Educational Testing Service)	550+ (paper version)/213+ (computer version)
Internet TOEFL (iBT)	Reading, 20; Listening, 21; Speaking 19; Writing, 17 (or Total 80)
1. Original score sent from ETS (or copy to be verified by UNT International Admissions office).	
2. Score must be less than two years old. Student may provide a certified older score if student has been continuously studying at a U.S. college or university.	
GCE, GCSE, IGCSE	C or higher in English Language
WASC, KCSE, SSCE or equivalent national exams	C or higher in English Language
SAT Verbal	500 or higher
ACT Verbal	19 or higher
TAAS Scaled Scores	Reading, TLI 4X-89; Writing, 1770
THEA	Reading, 230; Writing, 220
IB (International Baccalaureate)	Grade 5 or higher
English Composition I and II passed at a U.S. institution (that counts as transfer credit at UNT, not ESL courses)	
Articulation partners, as pre-arranged	

A \$75 (U.S. dollars) fee is required each for IELI applicants and for UNT applicants. Application for both IELI and UNT, therefore, requires a \$150 fee. Applications will not be processed if the non-refundable fee is not submitted with the International Student Application for Admission form.

Application forms may be requested by mail at University of North Texas, International Admissions, P.O. Box 311067, Denton, TX 76203-1067, U.S.A.; by e-mail (international@unt.edu); by the web site (www.international.unt.edu); or the Texas Common Application may be completed online (www.applytexas.org).

Admission Requirements for International Students

All students who are not U.S. citizens or U.S. permanent residents are considered international students at the University of North Texas and must meet the following admission requirements, plus any departmental requirements.

1. Apply for admission to UNT using the *International Student Application for Admission* and pay the \$75 application fee.
2. Establish English language proficiency. UNT requires non-native speakers of English to submit evidence of English language proficiency. The chart "English Language Proficiency Minimum Requirements" shows acceptable measures and scores.

3. Submit official transcripts, degree certificates if a degree was earned, and national examination marks if required by the students' country, in the native language with English translations.

- a. Students who have never attended a college or university must submit official high school records with above average grades.
 - b. Students who have attended a college or university for less than one year must submit official high school records and official university records from each institution attended.
 - c. Students who have attended a college or university for more than one year must submit official college or university records from each institution attended. Students with fewer than 30 semester hours of transfer credit must have a grade point average of 2.5 or higher. Students with 30–44 semester hours of transfer credit must have a grade point average of 2.25/4.0. Students with 45+ semester hours of credit must have a grade point average of 2.0/4.0.
 - d. Transfer credit is subject to audit during a student's academic career at UNT. Total hours accepted may be increased or decreased to reflect correction of prior evaluation or consideration of additional transfer work to ensure compliance with UNT academic policies.
4. F-1 and J-1 visa students must provide proof of available financial resources for one academic year

(nine months): undergraduate, \$22,730; graduate, \$20,730 (approximate costs).

5. Graduate applicants should consult departmental copy in this catalog for additional requirements for their specific degree program.

IMPORTANT: Students who have completed 12 years of primary and secondary school plus a three-year bachelor's degree are eligible for bachelor's degree admission only and must complete the UNT bachelor's degree before becoming eligible for master's level admission.

Graduate Preparation Course

Applicants who are non-native speakers of English may be eligible for the Graduate Preparation Course (GPC) as a substitute for the GRE verbal test score required for many graduate programs. Acceptance of the GPC as a GRE verbal score substitute is entirely at the option of an academic unit. The graduate school maintains a list of academic areas that have opted to accept the GPC substitute for the GRE verbal score. Prior to enrolling in the GPC, applicants should contact the academic unit or the graduate school to determine whether the academic unit accepts GPC students. Written authorization from the academic unit is required prior to enrolling in the GPC.

The GPC is an intensive semester-long course of advanced English-language skills conducted by the UNT Intensive English Language Institute (IELI). Applicants eligible for the GPC must have success-

fully completed level six of the IELI or have met current UNT TOEFL requirements, and must have conditional admission to a UNT graduate program. Each GPC applicant must also complete a graduate-level course (or other course, as specified or approved by the department) at UNT in the applicant's selected major area and submit a grade of B or better.

Applicants successfully completing the GPC will receive a waiver of the verbal GRE score, but must complete all other admission requirements of the graduate school and the academic unit.

Admission or Re-enrollment as Related to Personal Conduct and Admission Falsification

It is the responsibility of the director of admissions to refer to the Center for Student Rights and Responsibilities any application for admission or re-enrollment that indicates possible ineligibility of the applicant on grounds involving personal conduct. The potential of the applicant to benefit from university attendance, as well as the welfare and safety of the student body and of the university, will be carefully considered before permission to enroll will be granted.

Definitions of Terms

Academic Common Market

The Academic Common Market is an interstate agreement for sharing uncommon programs between 14 Southern states.

Residents of these states who are accepted for admission into selected out-of-state programs may enroll on an in-state tuition basis. To qualify, an applicant must (1) be accepted into a program to which his or her state has made arrangements to send its students and (2) submit proof to the university of legal residence in the home state. Residents of the Southern states should contact the Texas state coordinator for the Academic Common Market, in care of the Texas Higher Education Coordinating Board, P.O. Box 12788, Capitol Station, Austin, TX 78711, or contact the Toulouse School of Graduate Studies at UNT for more information.

A list of certain graduate degree programs offered by UNT that are currently accepted by various states that are members of the Common Market may be obtained from the Texas Higher Education Coordinating Board or the Toulouse School of Graduate Studies at UNT.

Academic Status

This term is used as an indication of a student's academic standing with the university. Students must maintain a minimum cumulative grade point average (CGPA) of 3.0 to remain in good academic standing.

Academic Probation

A graduate student is placed on academic probation at the end of any enrollment period in which the CGPA drops below 3.0.

Academic Suspension

A graduate student who is placed on academic probation who does not receive either a semester or a cumulative 3.0 graduate GPA during the term/semester of probation will be subject to academic suspension for a period of up to one calendar year before becoming eligible to reapply for graduate admission (see "Readmission of Graduate Students" in the Admission section) and enroll for further graduate courses. After the one-year period of suspension, students may re-enroll in graduate courses under probation. Students who are then suspended a second time without having returned to good academic standing by achieving a CGPA of 3.0 or better will be dismissed from the university.

Certification-Only Students

Certification-only students are admitted to the Toulouse School of Graduate Studies to pursue professional or teacher certification only. Up to 12 graduate semester credit hours taken as a non-degree seeking or certification-only student may

be used toward a degree with approval from the academic department. These students must meet graduate school admission requirements.

Classification of Graduate Students

Any student who holds a bachelor's degree from a regionally accredited institution is classified as a graduate student, whether or not admission to a degree program has been granted, and is subject to the regulations contained in this catalog concerning graduate students. Records concerning admission, continuation and graduation of such students are maintained in the office of the graduate dean.

Concentration

A concentration is a recognized focus in a subfield of a major field of study. Concentrations are placed on the UNT transcript.

Concurrent Enrollment

Concurrent enrollment is enrollment for any course or courses at another institution while registered for courses at UNT. Enrollment through the Federation of North Texas Area Universities is not considered concurrent enrollment. Graduate students must secure written permission for concurrent enrollment from the Toulouse School of Graduate Studies prior to registration.

Concurrent Programs

Concurrent programs are defined as programs (degrees, graduate academic certificates or teacher certification) that a student is pursuing simultaneously.

Continuing Students

Continuing students are those who have been officially enrolled at UNT at least once during the 12 consecutive months **prior** to the term/semester of planned enrollment and/or have not received a degree during the same period. Students who receive a degree and reapply to the university are considered new graduate students.

Continuous Enrollment

Continuous enrollment applies to the student admitted to a master's or doctoral degree that requires completion of a thesis or dissertation. Once work on the thesis or dissertation has begun, the student must continuously enroll in a minimum of 3 semester hours of thesis (5950) or dissertation (6950) during each long term/semester until the thesis or dissertation has been completed and submitted to the graduate dean for acceptance. Thesis or dissertation registration in at least one summer session/term is required if the student is using university facilities and/or faculty time during that summer session/term. Doctoral students must maintain continuous

enrollment subsequent to passing the qualifying examination for admission to candidacy.

Course Numbers

Freshman courses, 1000–1999.

Sophomore courses, 2000–2999.

Junior courses, 3000–3999.

Senior courses, 4000–4999.

Graduate courses, 5000 and above.

The graduate student enrolled in a 5000-level course that meets with a senior-level undergraduate course will be expected to complete additional requirements beyond those expected of undergraduates in the same course.

Courses 2900, 2910, 4900 and 4910, **Special Problems**, are used upon approval of the department chair or dean for individual instruction in any department to cover course content in special circumstances. Courses 5900, 5910, 5920 and 5930 are used in any department that offers graduate work; courses 6900 and 6910 are used in any department that offers doctoral work.

Experimental Courses, 1980, 2980 and 4980, are new courses offered on a trial basis for 1–4 hours credit each. Registration is permitted only upon approval of the department chair.

Advanced Courses, numbered 3000 to 4999, are open to students who have 12 semester hours of credit in a given subject or who have the indicated prerequisites, and to those without the prerequisites who have consent of the department chair. In some instances, college/school/departmental requirements may vary. Students should consult individual areas prior to enrolling in advanced courses.

Degree Plan

The degree plan is an official document prepared and approved in the student's major department that lists courses completed, courses to be completed, proficiency examinations and all other requirements for a particular degree program. The master's or doctoral degree plan should be prepared and approved in the department and submitted for graduate dean approval during the student's first term/semester of enrollment. The degree plan is subject to the requirements of the catalog in effect at the time the degree plan is approved.

Changes in either major or non-major requirements made necessary by altered or discontinued courses or by requirements imposed by external accrediting or certification agencies become effective for degree plan purposes at the beginning of the academic year immediately following the academic year in which the changes are published in the university catalog. The changes may include additions, deletions and other changes in prerequisite requirements for existing courses. Whenever possible, new requirements are implemented with a beginning class or upon the expiration of the appropriate time limit.

Dissertation/Thesis Defense

Upon completion of the dissertation or thesis, a student meets with his or her advisory committee to defend the content of the dissertation or thesis. After a student has successfully defended the paper and made any revisions suggested by the advisory committee, the student is ready to submit the paper to the graduate dean for final approval. Students must apply for graduation prior to the defense of the dissertation or thesis. Graduation information and deadlines are available from the Toulouse School of Graduate Studies.

Dual/Joint Degree Programs

Dual degree programs are separate degree programs that have been approved to work together to allow students to pursue two degrees simultaneously. This may be done by using courses for the major from each degree toward the minor on the other degree or by other approved means.

Joint degree programs are separate degree programs at different institutions that have been approved to work together to offer one degree. This is made possible by sharing faculty and academic resources.

Federation of North Texas Area Universities

The Federation of North Texas Area Universities is a collaborative effort between the University of North Texas, Texas Woman's University (TWU) and Texas A&M University–Commerce (TAMU–C). Master's and doctoral degree programs have been developed that permit students at any one of the three participating institutions to complete a portion of their graduate work at either or both of the other two.

The university's cooperative degree programs are administered through the Toulouse School of Graduate Studies. As a member of the federation, UNT offers interinstitutional graduate programs in a number of disciplines. Each cooperative degree program is coordinated by a federation committee for that discipline.

Enrollment of UNT students at TWU and TAMU–C under the cross-registration arrangement is contingent upon their meeting any prerequisites for admission to the class or classes in which they wish to be enrolled, and upon the availability of space in the class.

Former Students (graduate students only)

Former students are those graduate students who have not been enrolled at least once during the 12 consecutive months prior to planned enrollment and/or those who have received a degree.

Grade Point Average

The overall grade point average is used to determine student class loads, eligibility for admission to the university and certain programs, and eligibility for

graduation. All GPA calculations are subject to post-audit and correction by the Registrar's Office.

The GPA is calculated by dividing the total number of grade points by the total number of semester hours attempted. The number of semester hours attempted includes all courses with grades of A, B, C, D, F and WF unless replaced by a later grade. Courses with grades of I, NP, P, PR, W or Z are not counted as courses attempted.

Graduate Academic Certificates

The University of North Texas offers certificate programs for graduate credit at the post-baccalaureate and post-master's levels in areas of study designed to enhance existing bachelor's or master's degrees. Graduate academic certificates normally required 9–18 hours of graduate-level course work. (5000- or 6000-level courses). Contact the Graduate School for information including admission requirements. Graduate Academic Certificates are posted to the UNT transcript.

Non-Degree Students

Non-degree students are admitted to the Toulouse School of Graduate Studies to enroll in graduate or undergraduate courses and are not admitted to a degree program or do not intend to complete a degree at UNT. Up to 12 graduate semester credit hours taken as a non-degree student may be used toward a degree with approval from the academic department. Non-degree students must meet graduate school admission requirements.

Off-Campus Courses

Off-campus courses are courses available at various locations in the Dallas–Fort Worth area for residence credit. Registration procedures for off-campus courses are the same as courses offered on the UNT campus. Information concerning specific off-campus courses is available prior to and during each registration period in the *Schedule of Classes*.

Pass-Through Master's Degree

Students who are admitted to a 90-hour doctoral degree program, after completing a bachelor's degree, may apply to the master's program in the same major and receive a degree after completing all requirements for the master's degree while continuing the doctoral program.

Prerequisite

A prerequisite is a course or other preparation that must be completed before enrollment in another course. Prerequisites are included in catalog course descriptions.

Qualifying Examination

The qualifying examination is a test administered by the department once a doctoral student

has completed all courses required for the degree and has satisfied all admission, language and other tool-subject requirements. Dissertation enrollment is not permitted until this test is passed. Students are admitted to candidacy for the doctoral degree upon successful completion of the qualifying examination.

Schedule Change (Add/Drop, Withdrawal)

Students may make adjustments to their schedule by adding and/or dropping classes or by withdrawing from the university. Specific procedures must be followed in making these changes. Dropping all courses during a term/semester constitutes withdrawing from the university for that term/semester. Students must notify the Registrar's Office of their intent to withdraw from the university. Procedures and deadlines for dropping or withdrawing are available in the Registrar's Office and listed in the *Schedule of Classes*.

Semester Hour

A semester hour is the unit of credit at UNT; the credit allows for 1 lecture hour a week for 15 weeks or the equivalent. In course listings, figures in parentheses following the course credit hours indicate the number of clock hours per week devoted to lecture and laboratory. When it appears, the third and final number in parentheses indicates the number of recitation hours per week.

Teaching Assistants or Teaching Fellows

A teaching fellow (TF) is a graduate student who assumes total responsibility for the instruction in one or more classes. The TF is the instructor of record and is responsible for the assigning of grades. A teaching assistant (TA) is a graduate student who assists a faculty member in a class or laboratory and does not have total instructional responsibility for a class.

The minimal load of academic work required for teaching fellows and teaching assistants is established by each department. The total load of course enrollment and teaching assignment may not exceed 16 semester hours in any long term/semester. Approval of the graduate dean is required for loads in excess of this amount, but approval will not be granted for a combined load in excess of 18 semester hours. The Graduate School hosts a required TA/TF Orientation. See the Student Life section of this catalog for a brief description and contact the Graduate School for details.

Term/Semester/Session

The academic year includes three terms/semesters: fall, spring and summer. During the summer term, a number of sessions are scheduled. Presently the options include 3W1 (three week one, formerly May mini-mester), 5W1 and 5W2 (five week one and two, formerly summer sessions I and II), 8W1 (eight week one), 10W (ten week) and the full summer term.

Time Limitation

A time limitation is the length of time a student has to complete all requirements for the degree program. Master's students have six to eight years to complete their degree requirements depending on the number of semester hours required for the degree. Doctoral students have ten years to complete their degree requirements. Students anticipating that they will exceed the time limit must apply for an extension through the academic department before the time limit has expired. Information on filing a time extension can be found at www.tsgs.unt.edu/extension.htm. Time limitations also apply to transfer credit used toward a degree.

Track

A track is a group of courses designed for students seeking specialized training toward specific career objectives or a group of courses designed to meet a specific need within a degree program.

At UNTHSC–FW only, concentrations under the major are referred to as tracks.

Undergraduate Academic Certificates

The University of North Texas offers upper-division undergraduate academic certificates to meet workforce needs or to provide students with life/career skills and knowledge and to allow for specialization in academic disciplines. Undergraduate academic certificates require 12–20 hours, of which 9 must be advanced. See the *Undergraduate Catalog* for additional information, including admission requirements.

Degree Programs

The University of North Texas is composed of the following colleges and schools.

- The Robert B. Toulouse School of Graduate Studies
- The College of Arts and Sciences
- The College of Business Administration
- The College of Education
- The College of Engineering
- The School of Library and Information Sciences
- The School of Merchandising and Hospitality Management
- The College of Music
- The College of Public Affairs and Community Service
- The School of Visual Arts
- The Honors College

These schools and colleges offer the degrees, majors, concentrations under majors, minors, certifications and preprofessional programs listed under “Academic Programs Options.” See individual areas in this catalog for information about graduate offerings. Information about undergraduate offerings may be found in the *Undergraduate Catalog*.

Interdisciplinary Studies

- Master of Arts
- Master of Science

Note: Consult the associate dean of the Toulouse School of Graduate Studies for program opportunities and requirements and see the Toulouse School of Graduate Studies section of this catalog for additional information.

UNT Health Science Center at Fort Worth

- Master of Science,
- Doctor of Philosophy degree programs, both in biomedical sciences, are offered through the UNT Health Science Center at Fort Worth, and
- Master of Public Health.

For information on these programs, contact:

Dr. Thomas A. Yorio, Dean
Graduate School for Biomedical Sciences

or

Fernando Treviño, Dean
School of Public Health

University of North Texas Health Science Center
at Fort Worth
3500 Camp Bowie Blvd.
Fort Worth, TX 76107-2690
(817) 735-2560 or (817) 735-2252

Federation of North Texas Area Universities Degree Programs

The Federation of North Texas Area Universities is a collaborative effort between the University of North Texas, Texas Woman's University and Texas A&M University–Commerce. As noted in an earlier section, master's and doctoral degree programs have been developed that permit students at any one of the three participating institutions to complete a portion of their graduate work at either or both of the other two.

The university's cooperative degree programs are administered through the Toulouse School of Graduate Studies. As a member of the federation, UNT offers interinstitutional graduate programs in a number of disciplines. Each cooperative degree program is coordinated by a federation committee for that discipline.

Enrollment of UNT students at TWU and TAMU–C under the cross-registration arrangement is contingent upon their meeting any prerequisites for admission to the class or classes in which they wish to be enrolled, and upon the availability of space in the class.

UNT is approved to award the following degrees through programs offered by the federation.

Computer Science

- Master of Science

Counseling Psychology

- Doctor of Philosophy

Early Childhood Education

- Master of Science
- Doctor of Education

Interdisciplinary Studies

- Master of Arts
- Master of Science

Molecular Biology

- Doctor of Philosophy

Reading Education

- Master of Science
- Master of Education
- Doctor of Education
- Doctor of Philosophy

Sociology

- Doctor of Philosophy

Special Education

- Doctor of Philosophy

Universities Center at Dallas Degree Programs

The Federation of North Texas Area Universities manages the Universities Center at Dallas (UCD). Six universities cooperate in the offering of upper-division undergraduate courses and graduate courses at the UCD. These courses may be applied to programs and degrees offered by the three principal Federation universities (Texas A&M University–Commerce, Texas Woman’s University and the University of North Texas), by affiliate member Midwestern State University, and by the University of Texas at Arlington and the University of Texas at Dallas.

At the graduate level, a Master of Business Administration degree can be completed entirely at the Universities Center at Dallas. Other graduate degree offerings are under development and may be available entirely through the UCD. Contact the UCD or the Toulouse School of Graduate Studies for up-to-date information.

Enrollment of UNT students in UCD courses offered by Texas A&M University–Commerce, Texas Woman’s University, the University of Texas at Arlington and the University of Texas at Dallas is conducted under the rules applied to enrollment in Federation degree programs.

**University of North Texas Dallas Campus
(UNT System Center at Dallas)**

The University of North Texas Dallas Campus is an off-campus site of the University of North Texas in Denton. Located at 8915 S. Hampton Road, three blocks south of I-20 in Dallas, the UNT Dallas Campus offers junior-, senior- and graduate-level courses leading to bachelor’s and master’s degrees. Certificate programs and courses for career advancement are also provided.

Students who enroll at the UNT Dallas Campus must meet the same admissions requirements as students who apply to the UNT campus in Denton. Diplomas granted will be the same as those earned by students attending the Denton campus.

In January 2000, UNT began offering a limited number of academic programs at the UNT Dallas Campus facility. The 78,200-square-foot building features state-of-the-art classrooms, computer labs with Internet access, a counseling center and the region’s first virtual library. In addition, the facility is staffed with student service professionals to help students with admissions, advising, financial aid, registration, disability accommodation and other student services.

As enrollment increases, more academic programs will be added. In May 2001, the Texas State Legislature passed a bill providing for the growth of the UNT Dallas Campus into UNT–Dallas. When Dallas Campus enrollment reaches 1,000 full-time equivalent (FTE) students for one term/semester, UNT–Dallas will be created and may begin offering courses and granting degrees.

For current information about the University of North Texas Dallas Campus, call (972) 780-3600 or metro exchange (972) 228-8100, or visit the UNT Dallas Campus web site (www.unt.edu/dallas).

Current Programs

Undergraduate programs: applied arts and sciences (health information management, human services, legal information management or organization development), computer science, criminal justice, entrepreneurship, general business, general studies, interdisciplinary studies (elementary education, six tracks), nursing (RN to BSN)**, organizational behavior and human resources management, rehabilitation studies, social science and sociology.

Graduate programs: master’s level: administrative management, counseling, criminal justice, educational administration (principal certification), higher education (student services administration), information science, library science, public health*; doctoral level: educational administration.

Certifications, certificates and endorsements: adolescent counseling certificate, adult counseling certificate, alternative dispute resolution certificate,

applied gerontology certificate, community counseling certificate, diversity certificate, educational diagnostician certification, English–technical writing certificate.

**Program offered through UNT Health Science Center at Fort Worth.*

***Program offered through University of Texas at Arlington.*

See the Academic Program Options charts in this catalog for specific degree option listings.

The Academic Common Market

Fourteen Southern states participate in the Academic Common Market, an interstate agreement for sharing uncommon programs.

Residents of these states who are accepted for admission into selected out-of-state programs may enroll on an in-state tuition basis. To qualify, an applicant must (1) be accepted into a program to which his or her state has made arrangements to send its students, and (2) submit proof to the university of legal residence in the home state. Residents of the Southern states should contact the Texas state coordinator for the Academic Common Market, in care of the Texas Higher Education Coordinating Board, P.O. Box 12788, Capitol Station, Austin, TX 78711, or contact the Toulouse School of Graduate Studies at UNT for more information.

A list of certain graduate degree programs offered by UNT that are currently accepted by various states that are members of the Common Market may be obtained from the Texas Higher Education Coordinating Board or the Toulouse School of Graduate Studies at UNT.

Application for Graduation

It is the responsibility of the student to stay abreast of progress toward the degree and to file the appropriate degree application in the office of the graduate dean. Consult the Academic Calendar section in this catalog for the proper dates. The applicant's grade point average on all graduate work attempted must be at least 3.0 for the application to be accepted.

Because of the time required for receipt of transcripts, students otherwise eligible for graduation who complete their last course or courses elsewhere will not graduate at the end of the term/semester or summer session/term in which the work is completed, but will receive their degree at the close of a subsequent UNT term/semester or summer session/term.

Tuition and fees information is available online at essc.unt.edu/saucs. Students anticipating graduation should consult the Academic Calendar in this catalog or online at www.unt.edu/catsched for final dates for payment of fees and meeting other graduation requirements.

Classification of Graduate Faculty

Under the current system for the selection of graduate faculty (approved October 1992 by the Graduate Council), all full-time faculty members of the rank of assistant professor, associate professor, and professor are members of the graduate faculty, but individual faculty members may be classified as Category I, II or III. The qualifications for appointment to a category depend upon the faculty member's record of scholarly, creative and research activities. Category III reflects the highest level of scholarly attainment. Faculty members in any of the three categories may serve on thesis or dissertation committees as a member. Category II faculty members may serve as directors of theses committees and co-directors of dissertation committees. Graduate faculty members in Category III are the only faculty eligible to serve as chairs of dissertation or doctoral lecture recital committees.

Each faculty member must be a member of the appropriate graduate faculty category to direct new theses or dissertations. A complete listing of graduate faculty members in Category I, II and III is available in the Toulouse School of Graduate Studies or at www.gradschool.unt.edu. Students are advised to consult this list regarding the selection of faculty advisers for theses and dissertations.

Courses of Instruction

Courses normally meet one hour per week in lecture for each semester hour of credit. For courses with contact hours other than one hour per week per credit hour, the contact hours are given in parentheses in the course description, following the number of credit hours. Contact hours appear as two or three numbers. The first number is the number of lecture hours per week; the second is the number of laboratory hours. When a third number appears, it is the number of hours spent in recitation per week.

Individual courses of instruction are subject to change or withdrawal at any time and may not be offered each term/semester of every year. Any course may be withdrawn from current offerings if the number of registrants is too small to justify conducting the course.

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Grading System

Courses numbered 5000 or higher ordinarily are taken by students working toward master's and doctoral degrees; those numbered 6000 or higher are open principally to doctoral students. The graduate

student enrolled in a 5000-level course that meets with a senior-level undergraduate course will be expected to complete additional requirements beyond those expected of undergraduates in the same course.

UNT's grading system uses the letters A, B, C, D, F, P, NP, I, PR, W, WF and Z. The letter Z is used to indicate a grade was not properly received and/or recorded for a course.

- A** — excellent work; four grade points for each semester hour.
- B** — good work; three grade points for each semester hour.
- C** — fair work; two grade points for each semester hour.
- D** — passing work; one grade point for each semester hour. Courses in which the grade is D may not be counted toward a graduate degree.
- F** — failure; given when a student (1) has failed the course while still officially enrolled at the end of the term/semester; (2) is failing in a course and misses the final examination without satisfactory explanation; or (3) stops attending class without completing an official drop or withdrawal.
- P** — passed; a credit grade (1) on pass/no pass option; (2) on student teaching; and (3) in selected undergraduate and graduate individual problems and research courses.
- NP** — not passed; a failing grade on the pass/no pass option; nonpunitive.
- I** — incomplete; a nonpunitive grade given only during the last one-fourth of a term/semester and only if a student is (1) passing the course; (2) has justifiable reason why the work cannot be completed on schedule; and (3) arranges with the instructor to finish the course at a later date by completing specific requirements that the instructor must list on the grade sheet. For information on removal of I, see "Removal of I" below.
- PR** — assigned at the close of each semester or summer term in which the graduate student is enrolled in thesis (5950) or dissertation (6950). No credit hours are shown when the grade of PR is assigned. When the thesis or dissertation has been completed and submitted to the graduate dean, appropriate grades and credit hours will be shown on the student's record for the required number of enrollments.
- W** — drop or withdrawal without penalty. Given when a student drops or withdraws from the university prior to the end of the sixth week of classes of long terms/semesters or corresponding dates for summer sessions (specific dates are published in the Academic

Calendar). See regulations for dropping and withdrawing. After that time the student must have a passing grade for the instructor to assign a grade of W for a dropped course; otherwise, the grade of WF is recorded.

WF — drop or withdrawal with failing grade.

Instructor may drop a student with a grade of WF for courses for nonattendance. May be assigned after the sixth week of classes of long terms/semesters or corresponding dates for summer sessions (specific dates are published in the Academic Calendar). See regulations for dropping and withdrawing.

Note: At the graduate level, no semester credit hours and no grade points are allowed for grades D, F, I, NP, P, PR, W, WF or Z. (Use of E grade was discontinued in 1966; use of X and WX grades was discontinued in 1976.)

A complete record of all previously used grades and grading systems is detailed on the official transcript.

Students Called to Active Duty

Texas Education Code 54.006(f) indicates, "Beginning with the summer semester of 1990, if a student withdraws from an institution of higher education because the student is called to active military service, the institution, at the student's option, shall: (1) refund the tuition and fees paid by the student for the semester in which the student withdraws; (2) grant a student, who is eligible under the institution's guidelines, an incomplete grade in all courses by designating 'withdrawn-military' on the student's transcript; or (3) as determined by the instructor, assign an appropriate final grade or credit to a student who has satisfactorily completed a substantial amount of course work and who has demonstrated sufficient mastery of the course material."

In order to be eligible for options under the law, a UNT student must produce a copy of his or her orders. Withdrawal may or may not require that the student talk with each instructor depending on the timing in the semester; however, the latter two options do require that the student talk with his or her instructors and come to a decision as to which solution is best for each class given the timing and circumstances. A student called to active duty may consider the following options:

1. withdrawal for a full refund of appropriate tuition and fees;
2. incomplete grades with the one-year I (Incomplete) removal time limit starting with the end of duty; and/or
3. a final grade if the course is essentially over and the course material has been sufficiently mastered (determined by the instructor).

Grade Point Average

The overall grade point average is used to determine student class loads, eligibility for admission to the university and certain programs and eligibility for graduation. It is calculated by dividing the total number of grade points by the total number of semester hours attempted. All GPA calculations are subject to post audit and correction by the Registrar's Office.

The number of semester hours attempted includes all courses with grades of A, B, C, D, F and WF unless replaced by a later grade. Courses with grades of I, NP, P, PR, W or Z are not counted as courses attempted.

Graduate Credit for Work Experience

Graduate credit will not be granted for knowledge acquired through prior work or performance experience regardless of whether these experiences were of a paid or voluntary nature.

Quality of Work Required

The graduate student must maintain a B average on all courses that receive graduate credit, whether or not the courses are to be applied toward a graduate degree. Grades received in all courses numbered 5000 or higher are included in the computation of the graduate student's grade point average.

The student whose graduate GPA earned at another institution is below B will be required to make up the deficiency either at the other institution or at UNT. This regulation applies not only to graduate work attempted elsewhere before the student was first admitted to the Toulouse School of Graduate Studies at UNT, but also to graduate work attempted elsewhere after the student's admission at UNT.

Students must make satisfactory progress toward completion of degree requirements to remain in good standing within a specific degree program. Students whose progress is unsatisfactory may be removed from the program by the dean on recommendation of the major department or division. Courses in which the grade is D cannot be used toward completion of graduate degree requirements.

A grade of C or better must be earned in each undergraduate or graduate course assigned as a deficiency by the student's major department. Departments that wish to do so may establish more stringent requirements.

Probation and Suspension

1. **College of Business Administration.** Special probation and suspension rules apply for all degree-seeking students in the College of Business Administration. Consult the College of Business Administration section of the catalog for further information.
2. **All Other Students.** A student who fails to achieve the required cumulative average of 3.0 GPA (B average) on all courses carrying graduate credit in

a term/semester will be placed on academic probation for the subsequent term/semester. If the student achieves a 3.0 semester GPA in the subsequent term/semester, but the cumulative GPA is still below 3.0, the student will remain on academic probation. The student will be removed from probation when the 3.0 cumulative GPA is achieved. A student who is on probation cannot graduate.

A student who is placed on academic probation who does not receive either a semester or a cumulative 3.0 GPA during the term/semester of probation will be subject to academic suspension for a period of up to one calendar year before becoming eligible to re-enroll for further graduate courses. Graduate work completed elsewhere during a period of graduate suspension at UNT may not be counted for graduate credit at UNT. After the one-year period of suspension, students must reapply for admission to graduate school (see "Readmission of Graduate Students" in the Admission section of this catalog); students may then enroll in graduate courses under probation with the same probation conditions as previously described. Students who are then suspended a second time without having returned to good academic standing by achieving a cumulative GPA of 3.0 or better will be dismissed from the university.

The student whose UNT GPA in graduate work falls below 3.0 must make up the deficit, either by repeating courses in which the grades are low, or by completing other UNT courses with grades high enough to bring the UNT GPA up to 3.0. Low grades made in graduate courses at UNT may not be duplicated at other institutions.

Course Duplications

A student may enroll for a course a second or subsequent time and have it counted as part of the semester's load. If a course is repeated, the last grade recorded will be considered by the dean in certifying the student's eligibility for graduation. Departments may count the highest grade for departmental GPA requirements.

The responsibility for initiating the official recording of a grade duplication lies entirely with the student. However, the Registrar's Office may post duplications at the request of the student's adviser or to update academic status. In the absence of such a request, all grades received for a course will be included in the student's cumulative hours attempted and grade points earned. Once a duplication request is submitted, only the last grade received is included in the student's cumulative hours attempted and grade points earned.

Grade Changes

No grade except I may be removed from a student's record once properly recorded. Changes are not permitted after grades have been filed except to

correct clerical errors. Requests for error correction must be initiated immediately after the close of the term/semester for which the grade was recorded.

A faculty member who believes an error has been made in calculating or recording a grade may submit *in person* a request for a grade change to the department chair and the graduate dean. The Registrar accepts requests for grade changes only from the academic deans.

Grade Reports

A grade report for each student is available online at the close of each term/semester. It includes a statement of current academic status. If the grade report of the academic status is believed to be in error, the student should contact the Registrar's Office within 30 days following the first class day of the succeeding term/semester.

At mid-term/semester in the long sessions, instructors may provide individual written warnings to students who are doing unsatisfactory class work. These warnings are mailed from the Registrar's Office upon request of the instructor.

Transcripts

Transcript request information can also be found on the Registrar web page (essc.unt.edu/registrar).

Before an official transcript can be released, all financial or administrative obligations to the university must be resolved. To check for blocks, please refer to the Registrar's Office web site, essc.unt.edu/registrar. UNT transcripts may be ordered in person at the Registrar's Office or by written request. When sending a written request, include:

- Your full name and any previous name(s), if applicable
- Your ID number (or social security number if ID number is unknown)
- Your birth date
- Your approximate date of attendance at UNT
- Complete directions where to mail the transcript
- Your signature (required)
- A daytime phone number, e-mail address and your home mailing address (to contact you if there are any questions)
- Instructions for any "special handling" requirements (e.g., "place transcripts in separate, sealed envelopes," "hold request until current term/semester grades are posted," etc.)

Mail your written request to:

University of North Texas
Registrar's Office
Attn: Transcripts
P.O. Box 311400
Denton, TX, 76203-1400

Or fax the written request to:

(940) 565-3878

Attn: Transcripts

If you have any questions concerning transcripts, please contact the Registrar's Office in person or call the Registrar's Office at (940) 565-2111.

Grade Books

University policy requires that grade books be retained by the departmental chair for five years.

Tests

University policy requires that departments retain tests for one year after the term/semester has been completed or return tests to students. If the tests are returned, students are responsible for producing the tests should a grade appeal be necessary.

Pass/No Pass Grading

Graduate students are eligible to enroll for undergraduate courses under the pass/no pass option so long as such courses are not taken to make up undergraduate deficiencies or to meet any graduate degree requirements. Completion of an undergraduate course on the pass/no pass grading system may not be made the basis of a later request to be absolved of any degree requirement.

Any department or college of the university may elect to assign pass/no pass grades in graduate-level courses in which the student is engaged in individual research and is not attending an organized class, and in thesis, dissertation and problems courses. The student should inquire at the office of the Toulouse School of Graduate Studies at the time of registration for such courses whether a letter grade or a pass/no pass grade will be granted. Pass/no pass grades are not taken into account in computing the student's graduate grade point average.

Removal of I

A student may remove a grade of I within one year by completing the stipulated work. After the student completes the stipulated work, the instructor then records the final grade on a UNT Grade Change Form and obtains the department chair's signature. The instructor's academic dean completes processing with the Registrar's Office, where the grade point average is adjusted accordingly. If a student does not complete the stipulated work within the time specified (not to exceed one year after taking the course), the instructor may change the grade of I to a grade of F, if appropriate. The GPA is adjusted accordingly.

Texas Privacy and Public Information Policies — Family Educational Rights and Privacy Act

State law, with few exceptions, gives you the right to be informed about the information UNT collects about you. It also gives you the right to receive and review this information and the opportunity to have UNT change any incorrect information. UNT's Family Educational Rights and Privacy Act and privacy policies are available at www.unt.edu/untpolicy.

Pursuant to Chapter 552, Texas Government Code, known as the Public Information Act, and the Family Educational Rights and Privacy Act (FERPA) of 1974 as amended, also known as the Buckley Amendment, the university has established policies relating to the accessibility of student information in the custody of the University of North Texas. The UNT FERPA policy statement appears in its entirety in the UNT Policy Manual, policy number 18.1.9. Information not covered by the FERPA will be released only in accordance with the policy on public information found in policy number 10.6 of the UNT Policy Manual. Requests for such information must be made in writing.

The FERPA affords students certain rights with respect to their education records. They are:

1. The right to inspect and review the student's education records within 45 days of the day the university receives a written request for access.

Students should submit written requests that identify the record(s) they wish to inspect to the registrar, dean, head of the academic department or other appropriate official. The university official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the university official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.

2. The right to request the amendment of personal education records the student believes are inaccurate or misleading.

A student may ask the university to amend a record that he or she believes is inaccurate or misleading. The student should write the Office of the Vice Chancellor and General Counsel, clearly identify the part of the record he or she wants changed, and specify why it is inaccurate or misleading. Students may request a hearing to review a denial of a request to amend educational records. Additional information regarding the hearing procedures will be provided to the student when notified of the decision.

3. Generally, the FERPA requires written consent before personally identifiable information contained in a student's education records may be disclosed. However, the FERPA authorizes disclosure of this information without the student's consent under certain circumstances. One such exception is directory information.

Directory information consists of a student's full name, address, university provided e-mail address, telephone number, date and place of birth, major field of study, classification, participation in officially recognized activities and sports, weight and height of athletic team members, dates of attendance, degrees, awards received, the last educational agency or institution attended previous to UNT, and photograph.

Directory information regarding the student will be provided to the public upon request unless he or she files a request in the Registrar's Office asking to be excluded from the directory or from any other requests for open directory information from outside entities. The request should be submitted prior to the 12th class day in the fall and spring terms, the 2nd class day of the 3W1 session (formerly May mini-mester), or the 4th class day in the 5W1 or 5W2 summer sessions. A request to withhold information may be submitted after the stated deadline for a term, but information may be released between the deadline and receipt of the request. The file of a student who has asked to be excluded from the directory information will remain flagged until the student requests that the flag be removed.

Individuals may file a complaint with the U.S. Department of Education if they believe the University of North Texas has failed to comply with the requirements of FERPA. The complaint should be sent to:

Family Policy Compliance Office
U.S. Department of Education
400 Maryland Avenue, SW
Washington, DC 20202-4605

The University of North Texas will disclose information from a student's education records without the written consent of the student to the following individuals or under the following conditions:

1. School officials who have a legitimate educational interest in the records. A school official is a person employed by the university in an administrative, supervisory, academic or research, or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the university has contracted (such as an attorney, auditor, or collection agent); a person serving on the Board of Regents; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks. A school official has legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility.
2. Officials of another school, upon request, in which a student seeks or intends to enroll. The university will automatically forward a student's records to these institutions of higher education upon the institution's request.

3. Certain officials of the U.S. Department of Education, the U.S. Attorney General, the Comptroller General, and state and local educational authorities, in connection with an audit, or certain state or federally supported education programs.
4. In connection with a student's request for or receipt of financial aid, as necessary to determine the eligibility, amount or conditions of the financial aid, or to enforce the terms and conditions of the aid.
5. If required by state law requiring disclosure that was adopted before November 19, 1974, or disclosure concerns the juvenile justice system's ability to effectively serve the student.
6. Organizations conducting certain studies for or on behalf of the university.
7. Accrediting organizations to carry out their functions.
8. Parents of an eligible student who claim the student as a dependent for income tax purposes.
9. Comply with a judicial order or a lawfully issued subpoena.
10. Appropriate parties in a health or safety emergency.
11. Information designated as directory information by the university unless the student has requested such directory information be withheld.
12. The parent of a student who is not an eligible student or to that student.
13. An alleged victim of any crime of violence or non-forcible sex offense; the disclosure may only include the final results of any institutional disciplinary proceeding with respect to that alleged crime or offense, regardless whether the university concluded a violation was committed.
14. The general public if the institution determines as a result of a disciplinary hearing that the student committed a crime of violence or non-forcible sex offense in violation of university rules or policy or state or federal law, as authorized by state law.
15. A parent of a student under the age of 21 regarding a university determination that the student violated federal, state or local law or university policy governing the use or possession of alcohol or a controlled substance.

For information regarding the university's policy on access to records and to request accessibility to university records, contact the Office of the Vice Chancellor and General Counsel.

Academic Program Options

*Degrees, Majors, Concentrations under Majors, Minors, Certifications
Licensures and Professional Programs*

College of Arts and Sciences	
Academic Area	Program Options
Aerospace Studies	Minor
African-American Studies	Interdisciplinary Minor
Alternative Dispute Resolution	Interdisciplinary Minor
Applied Geography	Master of Science (MS)
Arabic	Minor
Archaeology	Interdisciplinary Minor
Asian Studies	Interdisciplinary Minor
Audiology	Doctor of Audiology (AuD)
Biochemistry	Bachelor of Arts (BA) Bachelor of Science in Biochemistry (BSBC) Master of Science (MS) Doctor of Philosophy (PhD)
Biology	Bachelor of Arts (BA) Bachelor of Science in Biology (BSBIO) Minor Master of Arts (MA) Master of Science (MS) Doctor of Philosophy (PhD)
Biology – Ecology	Concentrations under the Master’s Major Concentrations under the Doctoral Major
Biology – Microbiology	Concentrations under the Master’s Major Concentrations under the Doctoral Major
Biology – Plant Science	Concentrations under the Master’s Major Concentrations under the Doctoral Major
Chemical Technicians	Minor
Chemistry	Bachelor of Arts (BA) Bachelor of Science in Chemistry (BSCHM) Minor Master of Science (MS) Doctor of Philosophy (PhD)
Chemistry – Analytical Chemistry	Concentrations under the Master’s Major Concentrations under the Doctoral Major
Chemistry – Chemistry Education	Concentrations under the Master’s Major
Chemistry – Industrial Chemistry	Concentrations under the Master’s Major
Chemistry – Inorganic Chemistry	Concentrations under the Master’s Major Concentrations under the Doctoral Major
Chemistry – Organic Chemistry	Concentrations under the Master’s Major Concentrations under the Doctoral Major
Chemistry – Physical Chemistry	Concentrations under the Master’s Major Concentrations under the Doctoral Major

See Academic Program Options Key on pages 54-56

College of Arts and Sciences (continued)	
Academic Area	Program Options
Clinical Psychology	Master of Arts (MA) Master of Science (MS) Doctor of Philosophy (PhD)
Communication Studies	Bachelor of Arts (BA) Minor Master of Arts (MA) Master of Science (MS) Elementary Certification ^{***,++} Secondary Certification ^{***,++}
Counseling Psychology	Master of Arts (MA) Master of Science (MS) Doctor of Philosophy (PhD)
Creative Writing	Master of Arts (MA)
Cytotechnology	Bachelor of Science (BS)
Dance	Bachelor of Arts (BA) Bachelor of Fine Arts (BFA) Secondary Certification ^{***,++}
Economics	Bachelor of Arts (BA) Bachelor of Science in Economics (BSECO) Minor Master of Arts (MA) Master of Science (MS)
Economics Research	Master of Science (MS)
Engineering Physics	Bachelor of Science in Engineering Physics (BSEP)
English	Bachelor of Arts (BA) Minor Master of Arts (MA) Doctor of Philosophy (PhD)
English – American Literature	Concentrations under the Doctoral Major
English – British Literature	Concentrations under the Doctoral Major
English – Composition	Concentrations under the Undergraduate Major
English – Creative Writing	Concentrations under the Undergraduate Major
English – English Language Arts	Concentrations under the Undergraduate Major
English – Linguistics	Concentrations under the Undergraduate Major
English – Literature	Concentrations under the Undergraduate Major
English – Technical Writing	Concentrations under the Undergraduate Major Minor Professional Certification
English Language Arts and Reading	Secondary Certification ^{***,++}
English as a Second Language	Master of Arts (MA) Elementary Certification ^{***,++} Secondary Certification ^{***,++}
Environmental Science	Master of Science (MS) Doctor of Philosophy (PhD)

See Academic Program Options Key on pages 54-56

College of Arts and Sciences (continued)	
Academic Area	Program Options
Experimental Psychology	Master of Arts (MA) Master of Science (MS) Doctor of Philosophy (PhD)
French	Bachelor of Arts (BA) Minor Master of Arts (MA) Secondary Certification ^{***,++}
General Studies	Bachelor of Arts (BA)
Geography	Bachelor of Arts (BA) Bachelor of Science (BS) Minor
Geography – Earth Science	Concentrations under the Undergraduate Major
Geography – Regional Science	Concentrations under the Undergraduate Major
Geology	Minor
German	Bachelor of Arts (BA) Minor Secondary Certification ^{***,++}
Health Psychology and Behavioral Medicine	Doctor of Philosophy (PhD)
History	Bachelor of Arts (BA) Minor Master of Arts (MA) Master of Science (MS) Doctor of Philosophy (PhD) Secondary Certification ^{***,++}
History – Modern European History	Concentrations under the Master's Major Concentrations under the Doctoral Major
History – United States History	Concentrations under the Master's Major Concentrations under the Doctoral Major
Industrial – Organizational Psychology	Master of Arts (MA) Master of Science (MS) Doctor of Philosophy (PhD)
International Studies	Bachelor of Arts (BA) Interdisciplinary Minor
Italian	Minor
Japanese	Minor
Jewish Studies	Interdisciplinary Minor
Journalism	Bachelor of Arts (BA) Minor Master of Arts (MA) Master of Journalism (MJ) Secondary Certification ^{***,++}
Journalism – Advertising	Concentrations under the Undergraduate Major Minor
Journalism – Broadcast News	Concentrations under the Undergraduate Major Minor

See Academic Program Options Key on pages 54-56

College of Arts and Sciences (continued)	
Academic Area	Program Options
Journalism – Newswriting-Editorial	Concentrations under the Undergraduate Major Minor
Journalism – Photojournalism	Concentrations under the Undergraduate Major Minor
Journalism – Public Relations	Concentrations under the Undergraduate Major Minor
Labor and Industrial Relations	Master of Science (MS)
Life Science	Secondary Certification ^{***,++}
Linguistics	Master of Arts (MA)
Mathematics	Bachelor of Arts (BA) Bachelor of Science in Mathematics (BSMTH) Minor Master of Arts (MA) Master of Science (MS) Doctor of Philosophy (PhD) Secondary Certification ^{***,++}
Medical Technology	Bachelor of Science in Medical Technology (BSMT)
Mexican-American Studies	Interdisciplinary Minor
Military Science	Minor
Molecular Biology	Master of Arts (MA) Master of Science (MS) Doctor of Philosophy (PhD)
Music	Bachelor of Arts (BA)
Peace Studies	Interdisciplinary Minor
Philosophy	Bachelor of Arts (BA) Minor Master of Arts (MA) Doctor of Philosophy (PhD)
Philosophy – Environmental Ethics	Concentrations under the Master's Major
Physical Science	Secondary Certification ^{***,++}
Physics	Bachelor of Arts (BA) Bachelor of Science in Physics (BSPHY) Minor Master of Arts (MA) Master of Science (MS) Doctor of Philosophy (PhD)
Physics – Nuclear/Atomic Physics	Concentrations under the Doctoral Major
Physics – Solid State Physics	Concentrations under the Doctoral Major
Physics – Theoretical Physics	Concentrations under the Doctoral Major
Political Science	Bachelor of Arts (BA) Minor Master of Arts (MA) Master of Science (MS) Doctor of Philosophy (PhD)

See Academic Program Options Key on pages 54-56

College of Arts and Sciences (continued)	
Academic Area	Program Options
Political Science – American Government and Public Law	Concentrations under the Master’s Major Concentrations under the Doctoral Major
Political Science – Comparative Government and Politics	Concentrations under the Master’s Major Concentrations under the Doctoral Major
Political Science – International Politics	Concentrations under the Master’s Major Concentrations under the Doctoral Major
Political Science – Political Theory and Methodology	Concentrations under the Master’s Major Concentrations under the Doctoral Major
Political Science – Public Administration	Concentrations under the Master’s Major
Pre-Chiropractic	Professional Program****
Pre-Dental Hygiene	Professional Program****
Pre-Dentistry	Professional Program****
Pre-Dietetic	Professional Program****
Premedicine	Professional Program****
Pre-Nursing	Professional Program****
Pre-Occupational Therapy	Professional Program****
Pre-Optometry	Professional Program****
Pre-Pharmacy	Professional Program****
Pre-Physical Therapy	Professional Program****
Pre-Physician’s Assistant	Professional Program****
Pre-Podiatry	Professional Program****
Pre-Public Health	Professional Program****
Pre-Respiratory Therapist	Professional Program****
Pre-Seminary	Professional Program****
Pre-Theology	Professional Program****
Pre-Veterinary	Professional Program****
Psychology	Bachelor of Arts (BA) Bachelor of Science (BS) Minor
Radio/Television/Film	Bachelor of Arts (BA) Master of Arts (MA) Master of Fine Arts (MFA) Master of Science (MS)
Religion Studies	Interdisciplinary Minor
Russian	Minor
School Psychology	Master of Arts (MA)**** Master of Science (MS)**** Professional Certification##
Science	Secondary Certification***,++

See Academic Program Options Key on pages 54-56

College of Arts and Sciences (continued)	
Academic Area	Program Options
Social Science	Bachelor of Arts (BA) Interdisciplinary Minor
Social Studies	Secondary Certification***,++
Spanish	Bachelor of Arts (BA) Minor Master of Arts (MA) Secondary Certification***,++
Speech Communication	Secondary Certification***,++
Speech and Hearing Sciences	Minor
Speech – Language Pathology	Master of Arts (MA) Master of Science (MS)
Speech – Language Pathology/Audiology	Bachelor of Arts (BA) Minor Professional Certification#
Study of Sexualities	Minor
Technical Writing	Master of Arts (MA)
Theatre Arts	Bachelor of Arts (BA) Minor Secondary Certification***,++
Theatre Arts – Acting	Concentrations under the Undergraduate Major
Theatre Arts – Design/Technology	Concentrations under the Undergraduate Major
Women’s Studies	Interdisciplinary Minor

College of Business Administration	
Academic Area	Program Options
Accounting	Bachelor of Science (BS)• Minor Master of Science (MS)• Doctor of Philosophy (PhD)
Accounting – Audit and Financial Accounting	Concentrations under the Master’s Major
Accounting – Entrepreneurial Perspective	Concentrations under the Master’s Major
Accounting – Managerial Accounting Systems	Concentrations under the Master’s Major
Accounting Control Systems	Bachelor of Science (BS)
Business Administration	Master of Business Administration (MBA)
Business Computer Information Systems	Bachelor of Science (BS) Doctor of Philosophy (PhD)
Business Foundations	Minor
Decision Sciences	Bachelor of Business Administration (BBA)
Decision Technologies	Master of Science (MS)
Economics	Bachelor of Business Administration (BBA)

See Academic Program Options Key on pages 54-56

College of Business Administration (continued)	
Academic Area	Program Options
Entrepreneurship	Bachelor of Business Administration (BBA)
Finance	Bachelor of Business Administration (BBA) Master of Business Administration (MBA) Master of Science (MS) Doctor of Philosophy (PhD)
Financial Services	Bachelor of Business Administration (BBA) Minor
General Business	Bachelor of Business Administration (BBA) Secondary Certification***,++
Health Services Management	Concentrations under the Master's Major
Risk Management and Insurance	Bachelor of Business Administration (BBA) Minor
Information Technologies	Master of Science (MS)
Legal Studies	Minor
Logistics and Supply Chain Management	Bachelor of Science (BS)
Management	Minor Executive Master of Business Administration (EMBA) ***** Doctor of Philosophy (PhD)
Management Science	Doctor of Philosophy (PhD)
Marketing	Bachelor of Business Administration (BBA) Minor Concentrations under the Master's Major Doctor of Philosophy (PhD)
Operations and Supply Chain Management	Bachelor of Business Administration (BBA) Concentrations under the Master's Major
Organizational Behavior and Human Resource Management	Bachelor of Business Administration (BBA) Concentrations under the Master's Major
Real Estate	Bachelor of Business Administration (BBA) Minor Master of Science (MS)
Strategic Management	Concentrations under the Master's Major
Taxation	Master of Science (MS)

College of Education	
Academic Area	Program Options
Applied Technology and Performance Improvement	Bachelor of Applied Arts and Sciences (BAAS) Master of Education (MEd) Master of Science (MS) Doctor of Education (EdD) Doctor of Philosophy (PhD) Secondary Certification***,++
Art	All-Level Certification++

See Academic Program Options Key on pages 54-56

College of Education (continued)	
Academic Area	Program Options
Basic Business	Secondary Certification***,++
Bilingual – Generalist	Elementary Certification***,++
Chemistry (Physical Science)	Secondary Certification***,++
Computer Education	Minor
Computer Education and Cognitive Systems	Master of Science (MS)
Computer Education and Cognitive Systems – Instructional Systems Technology	Supplemental/External Certificates^
Computer Education and Cognitive Systems – Teaching and Learning With Technology	Supplemental/External Certificates^^
Counseling	Master of Education (MEd) Master of Science (MS) Doctor of Philosophy (PhD)
Counseling Associate Studies	Minor
Curriculum and Instruction	Master of Education (MEd) Doctor of Education (EdD) Doctor of Philosophy (PhD)
Dance	Secondary Certification***, ++
Development and Family Studies	Bachelor of Science (BS) Minor Master of Science (MS)
Development and Family Studies Program – Certified Family Life Educator	Professional Certification••
Development and Family Studies Program – Early Intervention Specialist Professional	Professional Certification••
Early Childhood Education (Grades EC–4)	Master of Science (MS) Doctor of Education (EdD) Elementary Certification***, ++
Educational Administration	Master of Education (MEd) Doctor of Education (EdD) Doctor of Philosophy (PhD)
Educational Computing	Doctor of Philosophy (PhD)
Educational Diagnostician	Professional Certification
Educational Psychology	Master of Arts (MA) Master of Science (MS)
Educational Research	Doctor of Philosophy (PhD)
English Language Arts and Reading	Secondary Certification ***,++
English as a Second Language	Elementary Certification***,++
Family and Consumer Science	Secondary Certification***,++
French	Secondary Certification***,++
Generalist (Grades 4–8)	Elementary Certification***,++
German	Secondary Certification***,++
Gifted and Talented	Supplemental/External Certificates, !

See Academic Program Options Key on pages 54-56

College of Education (continued)	
Academic Area	Program Options
Health Education	All-Level Certification++
Health Promotion	Bachelor of Science (BS) Minor
Health Science Technology	Secondary Certification***, !!
Higher Education	Master of Science (MS) Master of Education (MEd) Doctor of Education (EdD) Doctor of Philosophy (PhD)
History	Secondary Certification***, ++
Hospitality, Nutrition and Food Science	Secondary Certification***, ++
Human Development and Family Science	Secondary Certification***, ++
Interdisciplinary Studies (Grades EC-4; Grades 4-8)	Bachelor of Science (BS) Elementary Certification****, ++
Journalism	Secondary Certification***, ++
Kinesiology (Physical Education)	Bachelor of Science (BS) Minor Master of Science (MS) All-Level Certification, ++
Life Science	Secondary Certification***, ++
Marketing Education	Professional Certification, !!
Master Reading Teacher	Professional Certification, !
Master Technology Teacher	Professional Certification, !
Mathematics	Secondary Certification***, ++
Middle School Education (Grades 4-8)	Elementary Certification***, ++
Music	All-Level Certification++
Office Education	Professional Certification, !!
Physical Education (Kinesiology)	All-Level Certification, ++
Physical Science	Secondary Certification***, ++
Principal	Professional Certification, !
Reading Education	Master of Science (MS) Master of Education (MEd) Doctor of Education (EdD) Doctor of Philosophy (PhD)
Reading Specialist	All-Level Certification, !
Recreation and Leisure Studies	Bachelor of Science (BS) Minor Master of Science (MS)
Recreation and Leisure Studies – National Council on Therapeutic Recreation	Professional Certification••
School Counselor	Professional Certification, !
School Librarian	Professional Certification, !

See Academic Program Options Key on pages 54-56

College of Education (continued)	
Academic Area	Program Options
School Psychologist and Associate School Psychologist	Professional Certification##
Science	Secondary Certification***,++
Secondary Education	Master of Education (MEd)
Social Studies	Secondary Certification***,++
Spanish	Secondary Certification***,++
Special Education (EC1212)	Master of Science (MS) Master of Education (MEd) Doctor of Philosophy (PhD) All-Level Certification++
Speech	Secondary Certification***,++
Sports Management	Concentrations under the Undergraduate Major
Superintendent	Professional Certification, !
Technology Applications	Secondary Certification***,! All-Level Certification, ! Professional Certification, !
Theatre Arts	Secondary Certification***,++
Trade and Industrial	Secondary Certification***,!!

College of Engineering	
Academic Area	Program Options
Computer Engineering	Bachelor of Science (BS) Master of Science (MS)
Computer Science	Bachelor of Arts (BA) Bachelor of Science (BS) Minor Master of Science (MS) Doctor of Philosophy (PhD) Secondary Certification***,++
Construction Engineering Technology	Bachelor of Science in Engineering Technology (BSET)
Electrical Engineering	Bachelor of Science (BS) Master of Science (MS)
Engineering Technology	Minor Master of Science (MS)
Electronics Engineering Technology	Bachelor of Science in Engineering Technology (BSET)
Manufacturing Engineering Technology	Bachelor of Science in Engineering Technology (BSET)
Mechanical Engineering Technology	Bachelor of Science in Engineering Technology (BSET)
Nuclear Engineering Technology+	Bachelor of Science in Engineering Technology (BSET)
Materials Science and Engineering	Master of Science (MS) Doctor of Philosophy (PhD)

See Academic Program Options Key on pages 54-56

College of Engineering (continued)	
Academic Area	Program Options
Pre-Engineering	Preprofessional Program****

School of Library and Information Science	
Academic Area	Program Options
Information Science	Bachelor of Science (BS) Master of Science (MS) Doctor of Philosophy (PhD)
Library Science	Master of Science (MS)
School Librarian	Professional Certification, !

School of Merchandising and Hospitality Management	
Academic Area	Program Options
Electronic Merchandising	Bachelor of Science (BS) Minor
Family and Consumer Sciences (Grades 8–12)	Professional Certification
Home Furnishings Merchandising	Bachelor of Science (BS) Minor
Hospitality, Nutrition and Food Science (Grades 8–12)	Professional Certification
Hospitality Management	Bachelor of Science (BS) Minor Master of Science (MS)
Merchandising	Bachelor of Science (BS) Master of Science (MS)
Merchandising – Fashion Merchandise Development Emphasis	Minor

College of Music	
Academic Area	Program Options
Composition	Bachelor of Music (BM) Master of Music (MM) Doctor of Musical Arts (DMA)
General Choral and Instrumental Music	Bachelor of Music (BM) All-Level Certification++
General Choral and Instrumental Music – Choral/Keyboard	Concentrations under the Undergraduate Major
General Choral and Instrumental Music – Choral/Vocal	Concentrations under the Undergraduate Major

See Academic Program Options Key on pages 54-56

College of Music (continued)	
Academic Area	Program Options
General Choral and Instrumental Music – Instrumental/Band	Concentrations under the Undergraduate Major
General Choral and Instrumental Music – Instrumental/Orchestra	Concentrations under the Undergraduate Major
Jazz Studies	Bachelor of Music (BM) Master of Music (MM)
Music	Bachelor of Arts (BA) Minor Master of Arts (MA)
Music Education	Master of Music Education (MMEd) Master of Music (MM) Doctor of Philosophy (PhD)
Music History and Literature	Bachelor of Music (BM)
Music Theory	Bachelor of Music (BM) Master of Music (MM) Doctor of Philosophy (PhD)
Musicology	Master of Music (MM) Doctor of Philosophy (PhD)
Performance	Bachelor of Music (BM) Master of Music (MM) Doctor of Musical Arts (DMA) Preprofessional Programs****,!!!

College of Public Affairs and Community Service	
Academic Area	Program Options
Alternative Dispute Resolution	Interdisciplinary Minor Professional Certification
Anthropology	Bachelor of Arts (BA) Minor
Applied Anthropology	Master of Arts (MA) Master of Science (MS)
Applied Arts and Sciences	Bachelor of Applied Arts and Sciences (BAAS)
Applied Behavior Analysis	Bachelor of Science (BS) Minor
Applied Economics	Master of Science (MS)
Applied Gerontology	Bachelor of Science (BS) Minor Doctor of Philosophy (PhD)
Behavior Analysis	Master of Science (MS)
Criminal Justice	Bachelor of Science (BS) Minor Master of Science (MS)

See Academic Program Options Key on pages 54-56

College of Public Affairs and Community Service (continued)	
Academic Area	Program Options
Emergency Administration and Planning	Bachelor of Science (BS) Minor
Ethnic Studies	Minor
General Studies in Aging	Master of Arts (MA) Master of Science (MS) Professional Certification••
Human Service Management and Leadership	Minor Bachelor of Science (BS)*
Long-term Care, Senior Housing and Aging Services	Master of Arts (MA) Master of Science (MS)
Medical Anthropology	Minor
Public Administration	Minor Master of Public Administration (MPA)
Public Administration and Management	Doctor of Philosophy (PhD)
Rehabilitation Counseling	Master of Science (MS)
Rehabilitation Services – Rehabilitation Counseling	Professional Certification, Licensure•••
Rehabilitation Studies	Bachelor of Science (BS) Minor Professional Certification••••
Social Work	Bachelor of Social Work (BSW) Licensure###
Sociology	Bachelor of Arts (BA) Minor Master of Arts (MA) Master of Science (MS) Doctor of Philosophy (PhD)
Sociology – Family and Life Cycle	Concentrations under the Master’s Major Concentrations under the Doctoral Major
Sociology – Social Organization and Disorganization	Concentrations under the Master’s Major Concentrations under the Doctoral Major
Sociology – Urban Sociology	Concentrations under the Master’s Major Concentrations under the Doctoral Major
Substance Abuse and Addictions	Minor
Substance Abuse Treatment	Certificate ••••
Volunteer and Community Resource Management	Minor

School of Visual Arts	
Academic Area	Program Options
Art	Minor
Art – Museum Education	Professional Certification••

See Academic Program Options Key on pages 54-56

School of Visual Arts (continued)	
Academic Area	Program Options
Art Education	Master of Arts (MA) Doctor of Philosophy (PhD)
Art History	Bachelor of Arts (BA) Bachelor of Fine Arts (BFA) Minor Master of Arts (MA)
Ceramics	Concentration under the Undergraduate Major Minor Concentration under the Master's Major
Communication Design	Bachelor of Fine Arts (BFA) Concentration under the Master's Major
Design	Master of Fine Arts (MFA)
Drawing	Minor
Drawing and Painting	Concentration under the Undergraduate Major Concentration under the Master's Major
Fashion Design	Bachelor of Fine Arts (BFA) Concentration under the Master's Major
Fibers	Concentration under the Undergraduate Major Minor Concentration under the Master's Major
Interior Design	Bachelor of Fine Arts (BFA) Concentration under the Master's Major
Metalsmithing and Jewelry	Concentration under the Undergraduate Major Minor Concentration under the Master's Major
Photography	Concentration under the Undergraduate Major Minor Concentration under the Master's Major
Printmaking	Concentration under the Undergraduate Major Minor Concentration under the Master's Major
Sculpture	Concentration under the Undergraduate Major Minor Concentration under the Master's Major
Studio Art	Bachelor of Fine Arts (BFA) Master of Fine Arts (MFA)
Visual Arts Studies	Bachelor of Fine Arts (BFA) All-Level Certification++

Center for Interdisciplinary Graduate Studies	
Academic Area	Program Options
Interdisciplinary Studies	Master of Arts (MA) Master of Science (MS)

See Academic Program Options Key on pages 54-56

Cooperative Programs UNT/UNT Health Science Center at Fort Worth	
Academic Area	Program Options
Public Health	Master of Public Health (MPH) Doctor of Osteopathy (DO)
Public Health – Environmental Health	Concentrations under the Master’s Major
Public Health – Health Behavior	Concentrations under the Master’s Major
Public Health – Health Services Research§	Concentrations under the Master’s Major
Public Health/Anthropology§§	Master of Public Health (MPH) Master of Arts (MA)
Public Health/Health Psychology and Behavior Medicine§§	Master of Public Health (MPH) Doctor of Philosophy (PhD)
Public Health/Sociology§§	Master of Public Health (MPH) Master of Arts (MA) Master of Science (MS) Doctor of Philosophy (PhD)

Note: This program is administered through the School of Public Health at the UNT Health Science Center at Fort Worth. At the UNTHSC-FW, concentrations under the major are referred to as tracks.

For a complete listing of all programs offered, see the UNTHSC catalogs or the web site: www.hsc.unt.edu.

§ This concentration is available only in conjunction with the Public Health/Sociology degree.

§§ Dual or concurrent degree programs.

Dallas Campus	
Academic Area	Program Options
Accounting	Bachelor of Science (BS)
Adolescent Counseling	Professional Certification, !
Adult Counseling	Professional Certification, !
Alternative Dispute Resolution	Professional Certification
Applied Arts and Sciences Generalist	Bachelor of Applied Arts and Sciences (BAAS)
Applied Gerontology	Professional Certification
Bilingual/ESL	Post-graduate, !
Business Administration (Strategic Management)	Master of Business Administration (MBA)
Community Counseling	Professional Certification, !
Computer Science	Bachelor of Arts (BA) Bachelor of Science (BS)
Counseling	Master of Science (MS) Master of Education (MEd)
Criminal Justice	Bachelor of Science (BS) Master of Science (MS)
Diversity	Professional Certification
Educational Administration	Master of Science (MS) Doctor of Education (EdD)
Educational Diagnostician	Professional Certification, !
English – Technical Writing	Professional Certification

See Academic Program Options Key on pages 54-56

Dallas Campus (continued)	
Academic Area	Program Options
Entrepreneurship	Bachelor of Business Administration (BBA)
Finance	Bachelor of Business Administration (BBA)
General Business	Bachelor of Business Administration (BBA)
General Studies	Bachelor of Arts (BA)
Health Information Management	Bachelor of Applied Arts and Sciences (BAAS) Concentrations under the Undergraduate Major
Higher Education (Student Services Administration)	Master of Education (MEd) Master of Science (MS)
Human Services	Bachelor of Applied Arts and Science (BAAS) Concentrations under the Undergraduate Major
Information Science	Master of Science (MS)
Interdisciplinary Studies (Elementary Education, 8 tracks)	Bachelor of Science (BS) Elementary Certification***++
Legal Information Management	Bachelor of Applied Arts and Sciences (BAAS) Concentrations under the Undergraduate Major
Library Science	Master of Science (MS)
Marketing	Bachelor of Business Administration (BBA)
Nursing^^^	Bachelor of Science in Nursing (BSN)^^^
Organizational Behavior and Human Resources Management	Bachelor of Business Administration (BBA)
Organizational Development	Bachelor of Applied Arts and Sciences (BAAS) Concentrations under the Undergraduate Major
Public Health^^^^	Master of Public Health (MPH)
Rehabilitation Studies	Bachelor of Science (BS)
Social Science	Bachelor of Arts (BA)
Sociology	Bachelor of Arts (BA)
Substance Abuse Treatment	Certificate ••••

Note: Degrees, majors, concentrations under majors, professional fields, minors, certifications and preprofessional programs are selected in consultation with an adviser and, if approved, are incorporated into the student's degree plan and/or program of study.

Academic Program Options Key

Degrees, Majors, Concentrations under Majors, Minors, Certifications, Licensures and Professional Programs

Degree Abbreviations

AuD — Doctor of Audiology
 BAAS — Bachelor of Applied Arts and Sciences
 BA — Bachelor of Arts
 BBA — Bachelor of Business Administration
 BFA — Bachelor of Fine Arts
 BM — Bachelor of Music
 BS — Bachelor of Science
 BSBC — Bachelor of Science in Biochemistry
 BS BIO — Bachelor of Science in Biology
 BSCHM — Bachelor of Science in Chemistry

BSECO — Bachelor of Science in Economics
 BSEP — Bachelor of Science in Engineering Physics
 BSET — Bachelor of Science in Engineering Technology
 BSMTH — Bachelor of Science in Mathematics
 BSMT — Bachelor of Science in Medical Technology
 BSPHY — Bachelor of Science in Physics
 BSW — Bachelor of Social Work
 EMBA — Executive Master of Business Administration *****
 MA — Master of Arts
 MBA — Master of Business Administration
 MEd — Master of Education
 MFA — Master of Fine Arts
 MJ — Master of Journalism
 MM — Master of Music
 MMed — Master of Music Education
 MPA — Master of Public Administration
 MPH — Master of Public Health
 MS — Master of Science
 EdD — Doctor of Education
 DMA — Doctor of Musical Arts
 DO/MPH — Doctor of Osteopathy/Master of Public Health
 PhD — Doctor of Philosophy

Note: Degree abbreviations are taken from the Texas Higher Education Coordinating Board Inventory of Approved Degree Programs for Texas Public Senior Colleges and Universities and may not match the UNT degree option abbreviations listed in the Schedule of Classes.

Note: Some programs offer dual or joint degrees. See college/school copy.

Legend:

Degree programs, majors and concentrations under the majors are approved by the Texas Higher Education Coordinating Board.

Only undergraduate-level minors and preprofessional programs are listed.

Symbol	Information
*	Pending approval and/or review by the Texas Higher Education Coordinating Board.
**	Name change pending approval by the Texas Higher Education Coordinating Board.
***	Students planning to teach in elementary or middle schools must major in interdisciplinary studies in the College of Education. Students planning to teach in secondary schools must earn a major and a degree in the academic discipline in which they plan to teach, and take a minor in secondary education to qualify for a teaching certificate.
****	<p>The university offers preprofessional programs to meet requirements of selected professional schools of medicine, dentistry, nursing, engineering and other fields. The Preprofessional Advisory Committee assists all premedical and pre-dental students with major and minor selection, courses that meet preprofessional requirements, and applications and recommendations to professional schools. (Contact the Office of Student Advising, College of Arts and Sciences.)</p> <p>Students interested in chiropractic, dental hygiene, nursing, pharmacy, podiatry, optometry, all allied health fields, including physical therapy, physician's assistant, occupational therapy and veterinary medicine should work closely with the health professions counselor in the College of Arts and Sciences to determine the courses suggested for admission to each program. Students wishing to pursue post-baccalaureate work in seminaries or divinity schools should consult with the chair of the Department of Philosophy and Religion Studies.</p> <p>Although the university does not offer a preprofessional program in law, students may consult with the pre-law adviser in the Department of Political Science.</p>
*****	Program not currently accepting students.
+	Offered only at the Texas Utilities Electric facility at Comanche Peak.

++	Certificate is issued by the State Board for Educator Certification and is available at undergraduate and post-baccalaureate levels.
!	Certificate is issued by the State Board for Educator Certification and is available only at the graduate level.
!!	Vocational/Technical Certification is issued by the State Board for Educator Certification.
!!!	Non-degree Artist Certificate program in music.
#	Licensure is through the State Committee of Examiners for Speech-Language Pathology Audiology.
##	Licensure is through the Texas State Board of Examiners of Psychologists.
###	BSW, Social Work — graduates of the program are eligible to take the examination for licensure as a social worker (LSW) by the State of Texas.
•	Degrees awarded simultaneously.
••	Special Certificate Program.
•••	MS, Rehabilitation Services, Rehabilitation Counseling — carefully selected course work in the rehabilitation counseling concentration prepares graduates of the program to sit for one or more of the following licensures/certifications: CRC, LPC, LCDC.
••••	BS, Rehabilitation Studies — carefully selected course work and supervised field experiences prepare graduates of the program to be eligible to apply for the following certifications: LCDC, LSWA, CVE.
•••••	Certificate is designed for behavioral health majors (e.g., psychology, rehabilitation) whose educational requirements are waived under the LCDC licensing rules. It also serves students with a general interest in substance abuse and its treatment.
^	Certificate is issued by the International Society for Technology in Education (ISTE).
^^	Certificate is issued by the Association for Educational Communications and Technology (AECT).
^^^	This program is administered through the School of Nursing at the University of Texas at Arlington. This is an RN to BSN program.
^^^^	This program is administered through the School of Public Health at the UNT Health Science Center at Fort Worth.

Certain programs were under development and/or departmental review at the time this catalog went to press. Check with departments for the latest information on degree programs or requirements.

Undergraduate Academic Certificates

College of Arts and Sciences	
Certificate	Department
Biomedical Criminalistics	Biological Sciences and Chemistry
Geographic Information Systems	Geography
Media Management	Radio, Television and Film
Technical Writing	English
College of Business Administration	
Certificate	Department
Customer Relationship Management	Marketing and Logistics
E-Commerce Marketing	Marketing and Logistics
International Business	Business Administration
Logistics and Supply Chain Management	Marketing and Logistics
New Product Development	Marketing and Logistics
Retailing	Marketing and Logistics
College of Public Affairs and Community Service	
Certificate	Department
Applied Gerontology	Applied Gerontology
Criminalistics	Criminal Justice
Substance Abuse Treatment	Rehabilitation, Social Work and Addictions
Volunteer and Community Resource Management	Public Affairs and Community Service

The University of North Texas offers upper-division undergraduate academic certificates to meet workforce needs or to provide students with life/career skills and knowledge and to allow for specialization in academic disciplines. Undergraduate academic certificates require 12–20 hours, of which 9 must be advanced.

See “Undergraduate Academic Certificate Programs” in the Academics section of the *Undergraduate Catalog* for additional information, including admission requirements.

Graduate Academic Certificates

College of Arts and Sciences	
Certificate	Department
Environmental Ethics: Level One	Philosophy
Environmental Ethics: Level Two	Philosophy
Geographic Information Systems	Geography
Geographical and Environmental Modeling and Analysis	Geography
Religion in Media and Culture	Journalism
Teaching English to Speakers of Other Languages	English
College of Business Administration	
Certificate	Department
Human Resource Management	Management
Leadership in Supervisory Management	Management
Logistics and Supply Chain Management	Marketing and Logistics
College of Education	
Certificate	Department
Adolescent Counseling	Counseling, Development and Higher Education
Adult Counseling	Counseling, Development and Higher Education
Adult Learning and Education	Counseling, Development and Higher Education
Advanced Corporate Training	Technology and Cognition
Alternative Certification in Special Education	Technology and Cognition
Autism Intervention	Technology and Cognition
Behavioral Specialist	Technology and Cognition
Biofeedback in Counseling	Counseling, Development and Higher Education
Career Counseling	Counseling, Development and Higher Education
Child Counseling/Play Therapy	Counseling, Development and Higher Education
College/University Counseling	Counseling, Development and Higher Education
Community College Leadership	Counseling, Development and Higher Education
Community Counseling	Counseling, Development and Higher Education
Corporate Training	Technology and Cognition
Couple and Family Counseling	Counseling, Development and Higher Education
Diversity Certificate	College of Education
Family, School and Community Involvement	Counseling, Development and Higher Education
Gifted and Talented Education	Technology and Cognition
Group Counseling	Counseling, Development and Higher Education
Parent Education	Counseling, Development and Higher Education
Recreational Management	Kinesiology, Health Promotion and Recreation
Specialist in Re-Integration of Students with Traumatic Brain Injury	Technology and Cognition

College of Education (continued)	
Certificate	Department
Teaching Children and Youth with Mild to Moderate Disabilities	Technology and Cognition
Teaching and Learning Specialist for Inclusion Settings	Technology and Cognition
Transition Specialist in Emotional/Behavioral Disorders	Technology and Cognition
School of Library and Information Sciences	
Certificate	Department
Advanced Management in Libraries and Information Agencies	Library and Information Sciences
Storytelling	Library and Information Sciences
Youth Services in Library and Information Settings	Library and Information Sciences
School of Merchandising and Hospitality Management	
Certificate	Department
Hospitality Management	Merchandising and Hospitality Management
Merchandising	Merchandising and Hospitality Management
College of Music	
Certificate	Department
Music Entrepreneurship and Promotion	Music
College of Public Affairs and Community Service	
Certificate	Department
Applied Behavioral Analysis	Behavior Analysis
Police Management	Criminal Justice
Specialist in Aging	Applied Gerontology
Volunteer and Community Resource Management	Community Service
School of Visual Art	
Certificate	Department
Art Museum Education	Visual Arts

See the Toulouse School of Graduate Studies web site at www.gradschool.unt.edu for updated information.

The University of North Texas offers certificate programs for graduate credit at the post-baccalaureate and post-master's levels in areas of study designed to enhance existing bachelor's or master's degrees. Graduate academic certificates normally require 9–18 hours of graduate-level course work (5000- and 6000-level courses). See the Admission and Academics sections of this catalog for additional information, including admission requirements.

Master's Degree Requirements

Application for Admission

Applications must be submitted online at www.applytexas.org. Application is made through the Toulouse School of Graduate Studies.

General Requirements

The candidate must earn 30 or more hours of graduate credit, depending upon the requirements for the degree sought. Specific graduate degree requirements are determined by the *Graduate Catalog* currently in force at the time the student's degree plan is approved by the graduate dean.

Consult subsequent sections of this publication for the specific course requirements for each master's degree.

Level of Work Required

A maximum of 12 semester hours earned in non-degree or certification status prior to admission to a degree program may be counted toward degree requirements.

Time Limitations

All requirements for the master's degree must be completed within the following time periods, depending upon the number of semester hours required for the degree.

Semester hours required	Completion
42 or fewer	6 years
43 to 49	7 years
50 or more	8 years

As individual courses exceed these time limits they lose all value for degree purposes. Credits more than six years old at the time of first registration for graduate work are not transferable from other institutions.

Time limits are strictly enforced. Students exceeding the time limit may be required to repeat the comprehensive exam, replace out-of-date credits with up-to-date work, and/or show other evidence of being up-to-date in their major and minor fields. Students anticipating they will exceed the time limit should apply for an extension *before* the normal time period to complete the degree expires. Holding a full-time job is not considered in itself sufficient grounds for granting an extension. For time extension procedure/forms visit www.tsgs.unt.edu/extension.htm

Time spent in active service in the U.S. armed forces will not be used in computing the time limit. However, career members of the armed forces should consult the graduate dean concerning the credit given to work completed before or during active military service.

Use of Transfer Credit and Extension Credit

Subject to the approval of the graduate dean and the department, division, school or college concerned, a student who holds a bachelor's degree and who has been admitted to the Toulouse School of Graduate Studies at UNT may apply toward a master's degree the following amount of graduate work completed elsewhere:

1. up to 6 semester hours in a 30- to 35-hour program,
2. up to 9 semester hours in a 36- to 41-hour program,
3. up to 12 semester hours in a program of 42 hours or more.

Subject to the approval of the graduate dean and the department, division, school or college concerned, UNT extension credit may be applied toward the master's degree in the same ratio as transfer credit stated above, or in combination with transfer credit, so long as the total number of semester hours of combined transfer and extension credit does not exceed the limits stated above. Extension and correspondence credit earned at other institutions will not be counted toward a graduate degree at UNT.

It is the student's responsibility to make sure official transcripts of courses completed elsewhere are furnished to the office of the graduate dean, and graduate credit has been assigned by the other institution or institutions to whatever courses are to be counted toward the UNT degree. Such courses, although listed on the UNT degree plan, will not be counted toward the degree until official transcripts showing graduate credit have been received and the credit has been approved by the graduate dean. All transfer courses are subject to the time limitation described above.

If transfer credits do not show a B average, the student is required to make up the deficiency either at the institution where the credit was earned or at UNT.

In accordance with the rules of the Texas Higher Education Coordinating Board, at least one-third of the semester hours required for any graduate degree must be completed in course work on the campus of UNT.

Degree Plan: Admission to Candidacy

The student who desires to become a candidate for the master's degree should, before or at the time of registration, confer with the major department concerning the selection of a major professor and, if a minor is desired, with the intended minor department concerning the selection of a minor professor. The major professor, minor professor and the chair of the major department or a representative designated by the chair, will constitute the student's advisory committee. The major professor will act as chair of the committee.

The student's program is planned under the direction of the major and minor professors immediately

after completion of the first term/semester of graduate study. The degree plan is submitted to the graduate school when all admission provisions are complete. When the degree plan is approved by the graduate dean the student will then be admitted to candidacy for the master's degree.

Certain degree programs require successful completion of a specific admission course for admission to candidacy. Consult the appropriate section of this catalog for the specific course requirement. Immediately after the student has completed the admission course the dean of the school will send the proposed degree plan to the Toulouse School of Graduate Studies Office for final approval. When the degree plan is approved the student is admitted to candidacy for the master's degree.

All changes in the degree plan must be approved by the major professor and the department chair or departmental graduate adviser, and must be submitted in writing to the graduate dean.

Courses listed on the degree plan must carry letter grades, with the exception of those courses in which the student is engaged in individual research and is not attending an organized class. These courses, with the approval of the department, may be assigned pass/no pass grades.

No student whose academic or personal record is unsatisfactory will be admitted to candidacy for the master's degree.

Applicants will be notified by the dean of the Toulouse School of Graduate Studies of their admission to candidacy for a graduate degree.

Major and Minor Field

The candidate for the master's degree ordinarily is required to select a major and a minor field. To major in any field, the candidate must have completed a minimum of 24 semester hours of undergraduate courses in the field, including at least 12 hours of advanced courses prior to beginning graduate course work. Certain graduate majors require more extensive undergraduate preparation. Consult the section of this catalog describing the particular major desired for information concerning undergraduate admission requirements.

A minor is defined as graduate work completed outside of the student's major department or school. Minor areas of study can only be chosen from academic areas in which the University of North Texas is already authorized to offer a major or concentration, or where specific Texas Higher Education Coordinating Board approval has been given to offer courses for the purposes of a minor.

When an official minor is required or opted, the candidate's graduate advisory committee must include a faculty member from that area who will verify accountability in the minor area through comprehensive

examinations, thesis, problem in lieu of thesis, dissertation projects or other appropriate means.

For a master's degree, the student must complete at least 6 hours in a single area to have the area count as a minor. For doctoral degrees, the student must complete at least 12 hours in a single area to have the area count as a minor. For master's students all hours counted toward a minor must carry graduate credit and must be numbered 5000 or above. For doctoral students all hours applied toward the minor must be numbered 5000 or above.

Twelve hours of undergraduate credit are the usual prerequisite for a minor in any field. (*Exception:* In the case of a minor in a foreign language, the student is required to have completed the second term/semester of the sophomore year of study in the intended minor language.) In departments that offer no freshman courses only 6 hours of undergraduate credit are required as prerequisite to a graduate minor in that field.

Minors are not required on certain graduate degrees. Consult subsequent sections of this publication for specific regulations governing the degree sought.

Foreign Language Requirement

Knowledge of at least one foreign language acceptable to the department in which the student is majoring is required for the *Master of Arts* degree.

Foreign language requirements may be satisfied in any one of the following ways:

1. by passing the Foreign Language Proficiency Examination administered each term/semester and summer session/term by the Department of Foreign Languages and Literatures (contact the Department of Foreign Languages and Literatures for examination requirements). The application, together with information on a prerequisite screening test, must be obtained in the office of the chair of the Department of Foreign Languages and Literatures (scheduled dates for taking the examination in the current academic year appear in the Academic Calendar listed in the front of this catalog); or
2. by submitting a transcript of undergraduate credit showing completion of at least the sophomore year in a single foreign language, provided the grade on the last course completed is C or higher.

Candidates for graduate degrees to be awarded at the close of any summer session/term must have satisfied the foreign language requirements for the degree sought prior to the first class day of the second summer session/term (5W2). Candidates for graduation at the close of the spring or fall term/semester must have satisfied the foreign language requirements prior to the last day for filing thesis or dissertation in the office of the graduate dean. Consult the Academic Calendar for the proper deadline.

The Master's Degree Thesis

In most departments the candidate for a master's degree that requires the writing of a thesis is offered two means of meeting this requirement. In some departments, only Option I is available. Consult the department to determine if both options are available.

Option I: Thesis

1. The master's degree candidate should select a major of at least 18 semester hours, exclusive of the thesis, and a minor of at least 6 hours if required by the major department.
2. Membership of thesis examination committees will include representatives of the major field and the minor field, if the student is pursuing a minor area. The number of members on such committees will normally be three to five; at least three are required. In cases in which the academic unit has specified particular departmental or college procedures for thesis committee members, the student will follow these procedures.

The thesis chair is the student's mentor and guide through this process of the demonstration of independent scholarship. Therefore, the chair of the thesis committee, who must be willing to serve, is selected by the student in consultation with the appropriate graduate faculty, graduate adviser or department chair in the student's discipline. The thesis chair must be a Category II graduate faculty member. Students should consult the departmental policy for the selection of the remaining committee members.

A person who is not a regular member of the University of North Texas graduate faculty may receive a temporary graduate faculty appointment from the graduate dean in order to serve on a committee. For these appointments, the thesis committee chair should submit a written request and justification for the appointment and a vita of the prospective committee member. For persons who are faculty members of another university or are employed by business or industry, a letter of agreement to serve on the committee if appointed must also accompany the written request and vita submitted to the graduate dean. No more than one committee member without regular UNT faculty status may serve on a committee.

3. A thesis or final document consisting of the written report of an investigation or of a successful project is required. This project must be initiated, executed and reported by the candidate under the supervision of the major and minor professors.

It is strongly recommended that students meet with the graduate reader prior to beginning the thesis concerning the proper form for preparation of the paper.

The student is required to enroll in a minimum of 3 semester hours of thesis credit in the major department under the course number 5950 and

must maintain continuous enrollment in 5950 until the thesis has been completed and submitted to the graduate dean. Grades of PR will be recorded at the end of each term/semester of enrollment until the thesis is filed with the dean, then appropriate grades and credit hours will be shown on the student's record. Only one enrollment in 5950 is required during the summer session/term (in any session/term) if the student is using university facilities and/or faculty time during that term/semester.

The total number of semester hour credits recorded for the thesis may not exceed 6, regardless of the number of enrollments in the thesis seminar. No credit will be recorded until the thesis has been approved by the student's advisory committee, submitted to the Graduate Office and finally approved by the graduate dean. See the Academic Calendar for the deadline for submitting a thesis in any given term/semester. Detailed instructions for submission of the thesis are available from the graduate dean's office.

4. The candidate must pass a final comprehensive examination principally over the contents of the thesis and related matters. The comprehensive examination may be oral and/or written, or include another form of assessment as determined by the department. The student should check the appropriate departmental section of this catalog for further information. The results of the comprehensive examination must be received by the office of the dean of the Toulouse School of Graduate Studies no later than the deadline date for submission of theses by students expecting to graduate at the end of the current term/semester or summer session/term. Students should file for graduation according to the graduate graduation deadlines and at least ten days prior to the date of the defense.

Option II: Problems in Lieu of Thesis

In lieu of a thesis, the candidate must complete one or both of the problems courses numbered 5920 and 5930, as required by the major department.

The student is required to enroll for credit in the major department under the course number 5920 and 5930 (or 5930 only for cases in which the degree sought requires only one problem in lieu of thesis). If satisfactory progress is made, the grade of I is assigned at the end of the semester or term. If unsatisfactory progress has been made the grade of W is recorded. In the latter case, the student must enroll for 5920 or 5930 a second time. This procedure will be continued until the problem or problems have been completed and approved. Continuous enrollment in Problems in Lieu of Thesis is not required.

As part of the requirements for each problems course the student must present in writing a formal report or essay based upon the work done in the course, which must be approved by the advisory committee.

The Master's Degree Without Thesis Requirement

In programs leading to the master's degree that do not require the preparation of a thesis or problems in lieu of thesis, required or elective courses are substituted for the thesis requirement. The graduate curricula at UNT foster research and/or independent learning including research experiences, mentoring between graduate faculty and graduate students, and practical training that allows for contributions to the field of study, the development of new knowledge and practical experience. These programs are identified and described in subsequent sections of this publication.

The candidate for the master's degree under the non-thesis option is required to pass a comprehensive final examination, scheduled in accordance with the rules governing the comprehensive examination for students who write a thesis. Information concerning this requirement is available from the student's major department or school.

Requirements for the Second Master's Degree

Subject to the approval of the graduate dean and the department, division, school or college concerned, a graduate student may be allowed to apply up to 12 semester hours previously earned and applied toward a master's degree at an accredited institution toward a second master's degree, providing the 12 hours are in a minor or related field of study for the second master's degree.

This provision is subject to the rules governing the maximum amount of transfer and extension work that may be credited toward any master's degree and the age of work offered on a master's degree. A student simultaneously pursuing two master's degrees must complete the requirements for one degree in full before any final decision is made concerning application of any of the work on that degree toward the second degree.

Continuous Enrollment

A student must maintain continuous enrollment in a minimum of 3 semester hours of thesis or dissertation during each fall and spring term/semester until the thesis or dissertation has been accepted by the dean of the Toulouse School of Graduate Studies.

Thesis or dissertation registration in at least one summer session/term is required if the student is using university facilities and/or faculty time during that summer session/term.

Doctoral students must maintain continuous enrollment subsequent to passing the qualifying examination for admission to candidacy. Master's students must maintain continuous enrollment once work on the thesis has begun (effective for all students filing degree plans after January 1, 1987).

Failure to maintain continuous enrollment through the graduation semester will either invalidate any previous thesis or dissertation credits or will result in the student's being dropped from the degree program, unless granted an official leave of absence by the graduate dean in advance.

Checkpoints for the Master's Candidate

Dean — Dean of Toulouse School of Graduate Studies

ADCom — Advisory Committee

MP — Major Professor

GA — Graduate Adviser

DC — Department Chair

Procedure	Initiate Through	Approved By	Time
1. Apply for admission. Submit all official transcripts and an official copy of the appropriate standardized test score.	Dean	DC and Dean	At least six weeks prior to registration (seven-eight months prior to registration for foreign students). Note: Some programs have specific deadlines in advance of these suggested time periods.
2. Become familiar with general regulations and appropriate master's degree section of catalog.			Before registration.
3. Meet with graduate adviser assigned by department chair to plan course of study for first semester.	DC and GA	GA	Before first semester registration.
4. Establish advisory committee; prepare proposed degree program.	GA and DC	MP, DC and Dean	Upon or before completion of 12 semester hours.
5. If thesis is required, determine procedure.	ADCom	Dean	Per departmental requirements.
6. Apply for graduation.	Dean	Dean	See graduate deadline in Academic Calendar.
7. Check to be sure degree program and Advisory Committee are up to date and all course work is complete.			Well before final comprehensive examination. Follow regular procedures for changes.
8. Schedule and complete final comprehensive examination.	ADCom		Follow deadlines in Academic Calendar.
9. Submit final copy of thesis.	ADCom and DC	Dean	By deadline date in Academic Calendar.
10. File graduate application to continue graduate study, if the student so plans.	Dean	DC and Dean	Immediately upon completion of all requirements for master's degree.
11. Arrange for cap and gown at University Bookstore.			By deadline date for placing order.

Application for Admission

Applications must be submitted online at www.applytexas.org. Application is made through the Toulouse School of Graduate Studies.

General Requirements

The candidate must earn a minimum of 60 hours of graduate credit beyond the master's degree or 90 hours beyond the bachelor's degree.

This quantitative requirement must be regarded as a minimum. The quantity of course work to be completed by each candidate is arranged individually by the supervisory committee, subject to the approval of the graduate dean, and may be modified both as to quantity and as to type during the progress of the student's course work.

Minor Field

The candidate for the doctoral degree ordinarily is required to select a minor field. A minor is defined as graduate work completed outside the student's major department or school. Minor areas of study can only be chosen from academic areas in which the University of North Texas is already authorized to offer a major or where specific Texas Higher Education Coordinating Board approval has been given to offer courses for the purposes of a minor.

When an official minor is required or opted, the candidate's graduate advisory committee must include a faculty member from that area who will verify accountability in the minor area through comprehensive examinations, dissertation projects or other appropriate means.

For doctoral degrees, the student must complete at least 12 hours in a single area to have the area count as a minor. All hours counted toward a minor must carry graduate credit and must be numbered 5000 or above. No more than one-half of the required hours toward a minor may be transferred from another institution unless an approved graduate school minor articulation agreement is in effect.

Twelve hours of undergraduate credit or appropriate graduate-level work are the usual prerequisite for a minor in any field. (*Exception:* In the case of a minor in a foreign language, the student is required to have completed the second term/semester of the sophomore year of study in the intended minor language.) In departments that offer no freshman courses only 6 hours of undergraduate credit are required as prerequisite to a graduate minor in that field.

Minors are not required on certain graduate degrees. Consult subsequent sections of this publication for specific regulations governing the degree sought.

Entrance Examinations

All doctoral programs require an admission examination. Entrance examination requirements vary according to the requirements of the different departments and colleges. Entrance requirements ordinarily must be completed before the close of the first term/semester of doctoral study. Consult the appropriate graduate adviser for specific entrance examination requirements.

Residence Requirement

Every candidate for the doctoral degree must complete the appropriate residence requirement at UNT as prescribed by the individual departments and schools. The minimum residence requirement consists of two consecutive long terms/semesters at UNT (fall and the following spring, or spring and the following fall), or a fall or spring term/semester and one adjoining summer session/term at UNT. During the long terms/semesters a minimum of 9 hours must be taken. During the combined summer sessions/terms a minimum load of 9 semester hours must be taken. Some departments have established more stringent residence requirements appropriate to their programs.

Level of Work Required

All of the courses required for the doctorate above the level of the master's degree must be numbered 5000 or above. Hours counted toward earning a master's degree cannot be counted toward hours necessary to complete the doctorate.

A *maximum of 12 semester hours* earned in non-degree or certification status prior to admission to a degree program may be counted toward doctoral degree requirements.

Time Limitation

All work to be credited toward the doctoral degree beyond the master's degree must be completed within a period of 10 years from the date doctoral credit is first earned. No course credit beyond the master's degree that is more than 10 years old at the time the doctoral program is completed will be counted toward the doctorate.

Time limits are strictly enforced. Students exceeding the time limit may be required to repeat the comprehensive exam, replace out-of-date credits with up-to-date work, and/or show other evidence of being up-to-date in their major and minor fields. Students anticipating they will exceed the time limit should apply for an extension *before* their ninth year of study. For information regarding extensions go to www.tsgs.unt.edu/extension.htm. Holding a full-time job is not considered in itself sufficient grounds for granting an extension.

Time spent in active military service of the United States will not be considered in computing these time limits. However, career members of the armed forces

should consult the graduate dean concerning credit given to work completed before or during active military service.

Transfer and Extension Work

Depending on the student's previous preparation and needs, as many as 24 hours of advanced study beyond the master's degree or its equivalent completed at another institution may be accepted and credited toward the doctorate, provided the candidate's advisory committee recommends acceptance of transfer credit to the graduate dean.

The student beginning doctoral study at UNT should bear in mind transfer credit is not allowed on the doctorate until all requirements governing admission to candidacy have been met and such credit must in all cases be individually evaluated by the supervisory committee, recommended by the major department and approved by the graduate dean. The rule governing the time limit for doctoral credit applies also to transfer credits. Extension credit earned elsewhere may not be applied toward the doctorate at UNT.

If transfer credits, earned either before or after the first doctoral enrollment at UNT, do not show a B average, the student is required to make up the deficiency either at the institution where the credit was earned or at UNT.

To be applied to a doctoral program at UNT, courses completed elsewhere must have been taken at an institution that offers the master's or doctoral degree in the area in which the courses were taken, or in a closely related area.

In accordance with the rules of the Texas Higher Education Coordinating Board, at least one-third of the semester hours required for any graduate degree must be completed in course work on the campus of UNT.

Foreign Language or Tool-Subject Requirement

Foreign language or tool-subject requirements differ for the various doctoral degrees and majors. Some departments require students to satisfy the foreign language requirement while other departments have established tool-subject requirements that may in some instances be substituted for foreign language requirements for the PhD degree.

Students should consult subsequent sections of this publication or the graduate adviser of the major department or school for the specific requirements of the degree sought.

Foreign language requirements may be satisfied in any one of the following ways:

1. by passing the Foreign Language Proficiency Examination administered each term/semester and summer session/term by the Department of Foreign Languages and Literatures (contact the Department of Foreign Languages and Literatures for examination requirements). The application, together with

information on a prerequisite screening test, must be obtained in the office of the chair of the Department of Foreign Languages and Literatures; scheduled dates for taking the examination in the current academic year appear in the Academic Calendar listed in the front of this catalog; or

2. by submitting a transcript of undergraduate credit showing completion of at least the sophomore year in a single foreign language, provided the grade point average on all language courses is 2.75 or higher.

Language requirements must have been satisfied no earlier than 10 years prior to the date on which the student completes the qualifying examination and is admitted to candidacy for the doctoral degree. If the student's language proficiency or proficiencies have been demonstrated at an earlier date, they must be validated in a manner to be prescribed by the Graduate Council.

To satisfy all or part of a tool subject requirement, individual doctoral degree programs may use undergraduate courses as long as those courses are not part of, or equivalent to, the UNT core curriculum. Courses used to satisfy all or part of the tool subject requirements must have been completed no earlier than five years prior to the date on which the degree plan is filed.

As an option for academic units, examination(s) may be used to satisfy all or part of the tool-subject requirement.

Candidates for graduate degrees to be awarded at the close of any summer session/term must have satisfied the foreign language requirements for the degree sought prior to the first class day of the second term of the session. Candidates for graduation at the close of the spring or fall term/semester must have satisfied the foreign language requirements prior to the last day for filing thesis or dissertation in the office of the graduate dean. Consult the Academic Calendar for the proper deadline.

Degree Plan

A degree plan listing all courses should be completed by the student, approved by the student's advisory committee and department chair, and submitted to the graduate dean at an early point in the student's progress toward the degree, preferably soon after the first term/semester of doctoral study has been completed.

The major professor and committee members are chosen on the advice of the department or division chair or graduate adviser in the major area. All subsequent requests for degree plan changes must be submitted in writing by the major professor to the graduate dean.

Doctoral degree requirements are determined by the *Graduate Catalog* currently in force at the time the degree plan is approved by the graduate dean.

Courses listed on the degree plan must carry letter grades, with the exception of those courses in which the student is engaged in individual research and is not attending an organized class. These courses, with the approval of the department, may be assigned pass/no pass grades.

Qualifying Examination and Admission to Candidacy

The student who has completed all courses required for the degree (exclusive of dissertation) and has satisfied all admission, language and other tool-subject requirements should request that the major professor arrange for the qualifying examination to be held. Consult the graduate adviser in the major area for information about the qualifying examination requirement.

Ordinarily no dissertation enrollment is permitted until this examination has been passed. Students are admitted to candidacy for the doctoral degree by the graduate dean upon successful completion of the qualifying examination and other requirements.

Dissertation Requirement Continuous Enrollment

A dissertation is required of all candidates for the doctorate. Only 12 semester hours of dissertation credit are applied to the degree program, even though more dissertation hours may be accumulated. The student is required to enroll for dissertation credit in the major department under the course number 6950 and must maintain continuous enrollment in a minimum of 3 semester hours of 6950 during each fall and spring term/semester until the dissertation has been accepted by the graduate dean. Maximum enrollment in 6950 is 9 hours in a fall or spring term/semester. Dissertation registration in at least one summer session/term is required if the student is using university facilities and/or faculty time during that summer session/term. Doctoral students must maintain continuous enrollment subsequent to passing the qualifying examination for admission to candidacy. Grades of PR will be recorded at the end of each term/semester of enrollment until the dissertation is filed with the Toulouse School of Graduate Studies and approved by the graduate dean.

Students admitted to doctoral study who wish to complete a pass-through master's degree that requires a thesis must also maintain continuous enrollment in a minimum of 3 semester hours each fall and spring term/semester and in at least one summer session/term if the student is using university facilities or faculty time during that summer session/term. Continuous enrollment is required until the thesis has been filed and approved by the graduate dean.

Master's students must maintain continuous enrollment once work on the thesis has begun (effective for all students filing degree plans after January 1, 1987).

Failure to maintain continuous enrollment through the graduation semester will either invalidate any previous thesis or dissertation credit or will result in the student's being dropped from the degree program, unless granted an official leave of absence by the graduate dean in advance.

Composition of the Dissertation Examination Committee

Membership of dissertation examination committees will include representatives of the major field and the minor field, if the student is pursuing a minor area. Selection of committee members from disciplines other than the major or minor field is highly encouraged, whenever appropriate. The number of members on such committees will normally be three to five, and at least three are required. In cases in which the academic unit has specified particular departmental or college procedures for dissertation committee members, the student will follow these procedures.

The dissertation chair is the student's mentor and guide through this process of the demonstration of independent scholarship. Therefore, the chair of the dissertation committee, who must be willing to serve, is selected by the student in consultation with the appropriate graduate faculty, doctoral adviser or department chair in the student's discipline. The dissertation chair must be a Category III graduate faculty member. Students should consult the departmental policy for the selection of the remaining committee members.

A person who is not a regular member of the University of North Texas graduate faculty may receive a temporary graduate faculty appointment from the graduate dean in order to serve on a committee. For these appointments, the dissertation committee chair should submit a written request and justification for the appointment and a vita of the prospective committee member. For persons who are faculty members of another university or are employed by business or industry, a letter of agreement to serve on the committee if appointed must also accompany the written request and vita submitted to the graduate dean. No more than one committee member without regular UNT faculty status may serve on a committee.

Format

Before beginning the dissertation, the student should also consult the graduate reader for information concerning the proper form for preparation of the paper.

Completion

When the dissertation is completed and has received preliminary approval of the advisory committee, the student's major professor will schedule the final comprehensive examination and notify the Toulouse School of Graduate Studies of the date and time of the examination. Students should apply for graduation with the graduate school in accordance with the graduate graduation deadlines and at least 10 days prior to the final defense of their dissertation. The dissertation may not be submitted to the dean of the student's college or the graduate dean until this final examination has been passed.

No dissertation credit will be recorded until the dissertation has been approved by the student's advisory committee, submitted to the graduate dean's office and finally approved by the graduate dean. Instructions for submission of the dissertation may be obtained from the graduate dean's office.

Requirements for the Second Doctorate

Applicants who hold an earned doctorate from a regionally accredited institution may be admitted to the Toulouse School of Graduate Studies to work toward a second doctorate, subject to the following provisions.

1. The applicant must meet all requirements governing admission to the Toulouse School of Graduate Studies and to the degree program to be pursued.
2. The applicant must meet all requirements of the program to be pursued as to acceptable test (GRE, GMAT, etc.) scores, admission examinations, auditions, portfolios of work, letters of reference, etc.

3. The applicant must complete a minimum of 36 semester hours of approved course work in residence at UNT in accordance with the specifications of an approved degree plan. In most cases, the applicant's major on the first doctorate will be counted as the minor on the second doctorate, thus the reduction in the minimum required hours to 36.

This minimum program will ordinarily include dissertation credit amounting to 12 hours. Provision of a minimum number of credits to be earned in no way restricts the major department from requiring additional deficiency work and/or additional work on the doctoral program itself.

Continuous Enrollment

A student must maintain continuous enrollment in a minimum of 3 semester hours of thesis or dissertation during each fall and spring term/semester until the thesis or dissertation has been accepted by the dean of the Toulouse School of Graduate Studies.

Thesis or dissertation registration in at least one summer session/term is required if the student is using university facilities and/or faculty time during that summer session/term.

Doctoral students must maintain continuous enrollment subsequent to passing the qualifying examination for admission to candidacy. Master's students must maintain continuous enrollment once work on the thesis has begun (effective for all students filing degree plans after January 1, 1987).

Failure to maintain continuous enrollment through the graduation semester will either invalidate any previous thesis or dissertation credit or will result in the student's being dropped from the degree program, unless granted an official leave of absence by the graduate dean in advance.

Checkpoints for the Doctoral Candidate

Dean — Dean of Toulouse School of Graduate Studies
ADCom — Advisory Committee
MP — Major Professor

GA — Graduate Adviser
DC — Department Chair

Procedure	Initiate Through	Approved By	Time
1. Apply for admission. Submit all official transcripts and an official copy of the appropriate standardized test score.	Dean	DC and Dean	At least six weeks prior to registration (seven-eight months prior to registration for foreign students). Note: some programs have specific deadlines in advance of these suggested time periods.
2. Become familiar with general regulations and appropriate doctoral degree section of catalog.			Before registration.
3. Meet with graduate adviser assigned by department chair to plan course of study for first semester.	DC and GA	GA	Before first semester registration.
4. Establish Advisory Committee; prepare degree program.	GA and DC	MP, DC and Dean	Upon completion of 12 semester hours.
5. Complete course work detailed on proposed degree program and meet foreign language or tool-subject requirement.			Prior to qualifying examination. (See specific degree requirements for details.)
6. Take written/oral qualifying examination.	MP		Per departmental requirements.
7. Submit form to add university member to doctoral committee.	MP	Dean	Well in advance of dissertation proposal presentation.
8. Submit proposal for dissertation.	MP and AC		Well in advance of expected graduation date.
9. Prepare dissertation.	ADCom		Per departmental requirements.
10. Apply to graduate.	Dean		During final semester. (See deadline in Academic Calendar.)
11. Schedule final comprehensive examination.	ADCom	Dean	No later than four to five weeks prior to filing deadline. Notify School of Graduate Studies of date and time. (See deadline date in Academic Calendar.)
12. Submit final copy of dissertation.	ADCom and Dean	Dean	See deadline date in Academic Calendar.
13. Arrange for cap and gown at University Bookstore.			By deadline date for placing order.

Student Load

Fall/Spring

Graduate students may schedule as many as 16 hours during any fall or spring term/semester. For purposes of fulfilling the graduate residence requirement, a load of 9 semester hours is considered to be a full load. Graduate students enrolled only in undergraduate courses, for undergraduate credit, may request special consideration by the graduate dean.

Note: Special restrictions apply to the load permitted to graduate teaching fellows and teaching assistants. The total load of course enrollment *and* teaching assignment may not exceed 16 semester hours in any fall or spring term/semester. Approval of the graduate dean is required for loads in excess of this amount, but approval will not be granted for a combined load in excess of 18 semester hours.

Summer

A full-time graduate student with a GPA of at least 3.000 may select from sessions for a maximum of 18 hours. Constraints apply to graduate courses. Graduate students may schedule a maximum of 4 hours in a three week session (3W1), a maximum of 7 hours in each five week session (5W1, 5W2), a maximum of 9 hours in an eight week session (8WK), or a maximum of 9 hours in a ten week session (10W). At no time during concurrently running summer sessions can graduate students enrollment exceed 10 semester hours.

For purposes of fulfilling the graduate residence requirements, a load of 9 semester hours is considered a full load. Graduate students enrolled only in undergraduate courses may request special consideration from the graduate dean.

Overload

A graduate student can request an overload of the maximum number of hours allowed in a term/semester through the Robert B. Toulouse School of Graduate Studies. All requests are reviewed and the student notified of the status of their request prior to the end of registration for a term/semester.

Enrollment Certification

Enrollment verification and loan deferments are completed in the Registrar's Office based upon the student's having registered and paid tuition and fees according to the following criteria. See "Special Conditions for Financial Aid Recipients" in the Financial Information section of this catalog for loan deferment requirements.

Undergraduate

Full Time: fall, spring or summer terms/semesters, 12 or more hours.

Three-Quarter Time: fall, spring or summer terms/semesters, 9 to 11 hours.

Half Time: fall, spring or summer terms/semesters, 6 to 8 hours.

Graduate

Full Time: fall, spring or summer terms/semesters, 9 or more hours.

Three-Quarter Time: fall, spring or summer terms/semesters, 6 to 8 hours.

Half Time: fall, spring or summer terms/semesters, 4 to 5 hours.

Extension courses are considered non-traditional credit and are excluded for certification purposes.

International students also may request International Advising (Kendall Hall, Room 171) to issue letters of enrollment for the use of foreign governments, embassies, scholarship agencies and banks.

Auditing

With the written permission of the department chair and the dean of the college or school in which the course is taught, an individual fully eligible to enroll in the university may attend a class as an auditor without receiving college credit. The auditor's name will not be entered on the class roll, and the instructor will not accept any papers, tests or examinations from the auditor.

Attendance as an auditor may not be made the basis of a claim for credit in the course. Only one audit fee is required per term/semester regardless of the number of courses audited. Tuition and fees information is available online at essc.unt.edu/saucs.

Permission cards for auditors are not available during the official registration period, but may be requested in the offices of the academic deans after classes begin.

A person 65 years of age or older may enroll as an auditor and observer without credit and without payment of a fee, if space is available and if approved by the department chair and the appropriate dean. Such enrollment entitles the person to library privileges, but not to instruction in applied music or physical education, the use of laboratory equipment and supplies, or admission to university-sponsored fine arts events.

Registration

All registration and student requested schedule changes are conducted via web registration. Specific information and instructions as well as dates are found in the *Schedule of Classes* at essc.unt.edu/registrar and at my.unt.edu.

Late Registration

Students who are unable to enroll during the official registration periods must pay an additional fee to enroll late. See the *Schedule of Classes* for deadline dates.

Concurrent Enrollment at Another Institution

Graduate students must secure written permission from the graduate dean **before** registering for any course or courses at another institution while registered for any courses at UNT. (**Exception:** Enrollment at UNT for courses offered by Texas A&M–Commerce or Texas Woman’s University under the cooperative enrollment program of the Federation of North Texas Area Universities is not considered to be concurrent enrollment.)

Failure to secure the required permission for concurrent enrollment prior to registration at the second institution may cause UNT to refuse degree credit for the work taken elsewhere. In no case may the combined total of semester hours enrolled for at the two institutions exceed the maximum load permitted to graduate students.

Federation of North Texas Area Universities Enrollment

Under arrangements agreed upon by the members of the Federation of North Texas Area Universities (University of North Texas, Texas A&M University–Commerce [TAMU–C] and Texas Woman’s University [TWU]), graduate students in specified degree programs offered jointly by the members of the federation may enroll at their home institution for graduate courses offered by the other two universities. To be eligible for cross-registration at either of the other two universities, students must be admitted to a degree program or be working on a certification plan at the home institution. A list of jointly offered degree programs appears in The University section of this publication.

UNT graduate students who have been admitted to a jointly offered degree program and who wish to enroll for graduate courses offered by one of the other universities should first secure their major adviser’s approval of registration for a specific course or courses. Students register at UNT for the desired TAMU–C or TWU courses under the appropriate UNT departmental prefix and course number 5900 or 5910 (for master’s-level courses) or 6900 or 6910 (for doctoral-level courses). Section numbers for such enrollment are 790 through 799. The course title appearing on the UNT academic transcript will be identical to that of the course as offered by the other institution. Class schedules for both TAMU–C and TWU may be consulted in the office of the graduate dean, UNT.

The registration procedure described above is available only to graduate students admitted to one of the degree programs jointly offered by the federation, and applies to graduate courses only.

Enrollment at the Universities Center at Dallas

Students enrolling for graduate (or upper division undergraduate) courses offered by the partner universities of the Universities Center at Dallas (UCD), a Multi-Institutional Teaching Center (MITC) located in downtown Dallas, may enroll at their home institution for courses offered by the other UCD universities. Enrollment for graduate students will be handled in a manner similar to that for students enrolling in courses offered by the Federation of North Texas Area Universities. For details and course offerings call UCD at (214) 915-1900 or visit UCD’s web site at www.ucddowntown.org. UCD is located at 1901 Main St. in downtown Dallas.

University of North Texas Dallas Campus

(UNT System Center at Dallas)

John Ellis Price, PhD, CPA, Vice Provost

The University of North Texas Dallas Campus is an off-campus site of the University of North Texas in Denton. Located at 8915 S. Hampton Road, three blocks south of I-20 in Dallas, the UNT Dallas Campus offers junior-, senior- and graduate-level courses leading to bachelor’s and master’s and doctoral degrees. Certificate and endorsement programs and courses for career advancement are also provided.

Students who enroll at the UNT Dallas Campus must meet the same admissions requirements as students who apply to the UNT campus in Denton. Diplomas granted will be the same as those earned by students attending the Denton campus.

In January 2000, UNT began offering a limited number of academic programs at the UNT Dallas Campus facility. The 78,200-square-foot building features state-of-the-art classrooms, computer labs with wireless Internet access, a counseling clinic and the region’s first virtual library. In addition, the facility is staffed with student service professionals to help students with admissions, advising, counseling, financial aid, job placement, registration, disability accommodation and other student services.

As enrollment increases, more academic programs will be added. When Dallas Campus enrollment reaches 1,000 full-time equivalent (FTE) students for one term/semester, UNT at Dallas will be created and may begin offering courses and granting degrees.

For current information about the University of North Texas Dallas Campus, call (972) 780-3600, or

check out the UNT Dallas Campus web site at www.unt.edu/dallas.

Current Programs

Undergraduate programs: accounting, applied arts and sciences (health information management, finance, human services, legal information management or organization development), computer science, criminal justice, entrepreneurship, general business, general studies, interdisciplinary studies (elementary education, eight tracks), marketing, nursing (RN to BSN)**, organizational behavior and human resources management, rehabilitation studies, social science and sociology.

Graduate programs: master's level: strategic management, counseling, criminal justice, educational administration (principal certification), higher education (student services administration), information science, library science, public health*; doctoral level: educational administration.

Certifications, certificates and endorsements: adolescent counseling certificate, adult counseling certificate, alternative dispute resolution certificate, applied gerontology certificate, community counseling certificate, diversity certificate, educational diagnostician certification, English–technical writing certificate, substance abuse treatment certificate.

*Program offered through UNT Health Science Center at Fort Worth.

**Program offered through University of Texas at Arlington.

See the Academic Program Options charts in this catalog for specific degree option listings.

Evening and Saturday Classes

A large number of classes at the graduate level are scheduled for one three-hour meeting per week during the spring and fall terms/semesters, usually on Saturday morning or on a weekday evening. These classes carry residence credit, thus enabling many people in the Dallas–Fort Worth area to pursue graduate study while continuing their employment. Consult the *Schedule of Classes*, available prior to spring and fall registration, for schedule details.

A few of these classes also are available during summer terms/sessions. Again, consult the *Schedule of Classes*.

Off-Campus Courses

Many graduate courses for residence credit are available at various locations in the Dallas–Fort Worth area. Registration procedures for off-campus residence courses are the same as for courses offered on the UNT campus. Initial application for admission to the Toulouse School of Graduate Studies must be submitted to the graduate dean's office on the Denton

campus. Information concerning specific off-campus courses is available prior to and during each registration period.

Students considering enrollment for courses at off-campus centers are reminded of the rule of the Texas Higher Education Coordinating Board, that at least one-third of the semester hours required for any graduate degree from UNT must be completed in courses on the Denton campus.

Course Changes

Adding Courses

Graduate students must initiate all requests for adding courses in their academic department. Departmentally approved adds must then be delivered to the Toulouse School of Graduate Studies, ESSC Room 354, for final approval. Consult the Academic Calendar for dates during which adds are allowed.

Dropping Courses

Students who wish to drop a course before the 12th class day of fall or spring terms/semesters or before the equivalent dates for summer sessions may do so in the Registrar's Office or at my.unt.edu. After the 12th class day for fall or spring terms/semesters or the equivalent dates for summer sessions, students must first receive the written consent of their instructor prior to dropping a course. The instructor may withhold consent for students to drop for any reason provided the instructor has informed students in writing at the beginning of the term/semester. Students applying for financial aid are required to notify Student Financial Aid and Scholarships before dropping any class to learn how it will affect current or future financial aid eligibility.

The grade of W is recorded for any course dropped with the instructor's consent prior to the end of the sixth week of classes for fall or spring terms/semesters or the equivalent dates for summer sessions. After that time the student must have a passing grade for the instructor to assign a grade of W for a dropped course; otherwise, the grade WF is recorded.

Instructors may drop students with grades of WF from courses for non-attendance at any time after the completion of the sixth week of classes for fall or spring terms/semesters or the equivalent dates for summer sessions. See "Class Attendance" above.

No student may drop any course after Tuesday of a given semester's 10th week for fall or spring terms/semesters or the equivalent dates for summer sessions.

Drop procedures must be completed by 5 p.m. on the deadline dates specified in the Academic Calendar. After these dates a student may not drop a course.

See the *Schedule of Classes* for drop procedure and instructions.

Class Attendance

Regular and punctual class attendance is expected. Although in general students are graded on intellectual effort and performance rather than attendance, absences may lower the student's grade where class attendance and class participation are deemed essential by the faculty member. In those classes where attendance is considered as part of the grade, the instructor should so inform students at the semester's beginning by a *written notice*. Any instructor who informs students *in writing* about the necessity of class attendance may request of the Registrar that a student be dropped from the course with a grade of WF upon the accumulation of the stated number of absences. Instructor drops for non-attendance may be processed up to two weeks prior to the first day of final examinations for fall or spring terms/semesters and equivalent dates for summer sessions. Refer to the Academic Calendar in this publication for specific dates. Departments and similar academic units have authority to establish a department or course attendance policy, so long as the policy is in accord with the above stipulations.

If the instructor-initiated drop action falls within the time that the student is eligible to drop with instructor consent and without penalty, the Registrar's Office notifies the student that a WF will be recorded unless the student initiates the drop procedure, in which case a W will be assigned.

Authorized Absences

Absences due to participation in sponsored activities must be approved in advance by the department chair and academic dean. Within three days after the absence, students must obtain authorized absence cards from the Dean of Students Office for presentation to their instructors. Students with authorized absence cards may make up the work missed when practical or be given special allowance so they are not penalized for the absence.

Absence for Religious Holidays

In accordance with state law, students absent due to the observance of a religious holiday may take examinations or complete assignments scheduled for the day(s) missed, including those missed for travel, within a reasonable time after the absence. The student should notify the instructor of each class of the date of the anticipated absence as early in the term/semester as possible.

Only holidays or holy days observed by a religion for which the place of worship is exempt from property taxation under Section 11.20 of the Tax Code may be included. A student who is excused under this provision may not be penalized for the absence, but the instructor may respond appropriately if the student fails to satisfactorily complete the assignment or examination.

Students Called to Active Duty

Texas Education Code 54.006(f) indicates, "Beginning with the summer semester of 1990, if a student withdraws from an institution of higher education because the student is called to active military service, the institution, at the student's option, shall: (1) refund the tuition and fees paid by the student for the term/semester in which the student withdraws; (2) grant a student, who is eligible under the institution's guidelines, an incomplete grade in all courses by designating 'withdrawn-military' on the student's transcript; or (3) as determined by the instructor, assign an appropriate final grade or credit to a student who has satisfactorily completed a substantial amount of course work and who has demonstrated sufficient mastery of the course material."

In order to be eligible for options under the law, a UNT student must produce a copy of his or her orders. Withdrawal may or may not require that the student talk with each instructor depending on the timing in the term/semester; however, the latter two options do require that the student talk with his or her instructors and come to a decision as to which solution is best for each class given the timing and circumstances. A student called to active duty may consider the following options:

1. withdrawal for a full refund of appropriate tuition and fees;
2. incomplete grades with the one-year I (Incomplete) removal time limit starting with the end of duty; and/or
3. a final grade if the course is essentially over and the course material has been sufficiently mastered (determined by the instructor).

Withdrawal from UNT

A student may withdraw from UNT at any time prior to two weeks before the first day of final examinations for fall or spring terms/semesters or the equivalent dates for summer sessions by making a request in the Registrar's Office. For withdrawals processed prior to the end of the sixth week of classes for fall or spring terms/semesters or the equivalent dates for summer sessions, the grade of W is recorded for each course in which a withdrawn student was enrolled. After the sixth week of classes for fall or spring terms/semesters or the equivalent dates for summer sessions, a withdrawn student receives grades of W only for those courses in which there were passing grades at the time of withdrawal; otherwise, the grade WF is recorded.

Official dates and deadlines for withdrawing are specified in the Academic Calendar.

Note: Students receiving financial aid also must contact Student Financial Aid and Scholarships before dropping a class or withdrawing. Students receiving

financial aid may be required to go through an exit interview with a financial aid counselor before they are permitted to withdraw.

To receive a refund for a parking permit, a student must return the permit to the Parking Office located in the Sullivant Public Safety Center.

Pre-Final Examinations Week

So that students can adequately prepare for their final examinations, special rules apply to the seven calendar days preceding the final week of each fall and spring term/semester.

Student organizations do not meet; activities requiring student participation, such as field trips, athletic events or performances by dance, drama or music ensembles, are not scheduled unless approved in advance by the appropriate dean. Themes, reports, notebooks, research problems or exercises of similar scope are not to be assigned during this period, but students may submit previously assigned work.

Only examinations covering daily assignments, makeup tests or laboratory examinations may be given. Faculty members may not give any portion of the final examination during this seven-day period without advance approval from their academic dean.

On the Thursday and Friday of the week immediately preceding final exams, review classes shall be held. Furthermore, attendance at these reviews cannot be made mandatory and there will be no papers,

projects, exams, quizzes, or like assignments due on those days. Makeup exams will be permitted to take place. The above policy will not be applicable to classes that meet only once a week and meet on Thursday or Friday.

Final Examinations

Faculty members are expected to administer final examinations at the designated times during the final week of each fall and spring term/semester and during the specified day of each summer session/term. Any deviation from the published schedule of final examinations must be approved in advance by the appropriate academic dean.

If a final examination is not given in a particular course, the faculty member is expected to utilize the final examination period for summary, evaluation or other productive purposes.

Students who have three final examinations scheduled on one day may appeal to their academic dean to reschedule one of those examinations on another day during the final examination period.

Commencement Exercises

Commencement exercises are held in December, May and August. Diplomas are mailed to candidates approximately eight weeks after graduation has been verified.

Tuition and Mandatory Fees

(Fees are Subject to Change)

The amounts shown below are provided to better assist students and parents in assessing the cost of enrolling at the University of North Texas (UNT). While this information is intended to be comprehensive, tuition, fees, and room and board are subject to increase or decrease without notice by action of the Texas Legislature and/or the Board of Regents of UNT. Students are responsible for any additional amounts due UNT resulting from post audits and corrections, including all fees and waivers (i.e. registration assessing errors, changing from off-campus to on-campus classes, invalid employment waivers, etc.). For current information on tuition and fees, visit the Student

Accounting and University Cashiering Services web site (essc.unt.edu/saucs). Student Accounting and University Cashiering Services is open from 8:15 a.m. to 5 p.m. Monday through Friday. See essc.unt.edu/saucs for current tuition and fees.

Students are responsible for payment of the following charges.

The UNT Board of Regents has been granted the authority, within established guidelines, to set graduate tuition rates by program.

Graduate tuition for all graduate level courses (5000- and 6000-level courses) at UNT is \$50 per hour above the undergraduate rate.

Please visit the Student Accounting and University Cashiering Services web site (essc.unt.edu/saucs) for the most current tuition and fee rates.

Estimated Tuition and Fees*

Fall 2006 and Spring 2007 - Texas Resident

Students enrolled in graduate courses are charged an additional \$50.00 per hour for Graduate Tuition.

Hours	Total**	Tuition***	Mandatory Fees****	Graduate Courses (Includes Graduate Tuition*****)	
				Instructional Fees**	Tuition*****)
1.0	\$385.60	\$140.50	\$245.10	**	\$432.35
1.5	\$480.98	\$210.75	\$270.23		\$551.10
2.0	\$576.35	\$281.00	\$295.35	**	\$669.85
2.5	\$671.73	\$351.25	\$320.48		\$788.60
3.0	\$767.10	\$421.50	\$345.60	**	\$907.35
3.5	\$862.48	\$491.75	\$370.73		\$1,026.10
4.0	\$957.85	\$562.00	\$395.85	**	\$1,144.85
4.5	\$1,053.23	\$632.25	\$420.98		\$1,263.60
5.0	\$1,148.60	\$702.50	\$446.10	**	\$1,382.35
5.5	\$1,243.98	\$772.75	\$471.23		\$1,501.10
6.0	\$1,339.35	\$843.00	\$496.35	**	\$1,619.85
6.5	\$1,434.73	\$913.25	\$521.48		\$1,738.60
7.0	\$1,530.10	\$983.50	\$546.60	**	\$1,857.35
7.5	\$1,625.48	\$1,053.75	\$571.73		\$1,976.10
8.0	\$1,720.85	\$1,124.00	\$596.85	**	\$2,094.85
8.5	\$1,816.23	\$1,194.25	\$621.98		\$2,213.60
9.0	\$1,911.60	\$1,264.50	\$647.10	**	\$2,332.35
9.5	\$2,006.98	\$1,334.75	\$672.23		\$2,451.10
10.0	\$2,102.35	\$1,405.00	\$697.35	**	\$2,569.85
10.5	\$2,197.73	\$1,475.25	\$722.48		\$2,688.60
11.0	\$2,293.10	\$1,545.50	\$747.60	**	\$2,807.35
11.5	\$2,388.48	\$1,615.75	\$772.73		\$2,926.10
12.0	\$2,483.85	\$1,686.00	\$797.85	**	\$3,044.85
12.5	\$2,579.23	\$1,756.25	\$822.98		\$3,163.60
13.0	\$2,674.60	\$1,826.50	\$848.10	**	\$3,282.35
13.5	\$2,769.98	\$1,896.75	\$873.23		\$3,401.10
14.0	\$2,865.35	\$1,967.00	\$898.35	**	\$3,519.85

Hours	Total**	Tuition***	Mandatory Fees****	Instructional Fees**	Graduate Courses (Includes Graduate Tuition*****)
14.5	\$2,960.73	\$2,037.25	\$923.48		\$3,638.60
15.0	\$3,056.10	\$2,107.50	\$948.60	**	\$3,757.35
15.5	\$3,144.48	\$2,177.75	\$966.73		\$3,869.10
16.0	\$3,232.85	\$2,248.00	\$984.85	**	\$3,980.85
16.5	\$3,321.23	\$2,318.25	\$1,002.98		\$4,092.60
17.0	\$3,409.60	\$2,388.50	\$1,021.10	**	\$4,204.35
17.5	\$3,497.98	\$2,458.75	\$1,039.23		\$4,316.10
18.0	\$3,586.35	\$2,529.00	\$1,057.35	**	\$4,427.85
18.5	\$3,674.73	\$2,599.25	\$1,075.48		\$4,539.60
19.0	\$3,763.10	\$2,669.50	\$1,093.60	**	\$4,651.35
19.5	\$3,851.48	\$2,739.75	\$1,111.73		\$4,763.10
20.0	\$3,939.85	\$2,810.00	\$1,129.85	**	\$4,874.85

All Fees Subject To Change

Estimated Tuition and Fees*

Fall 2006 and Spring 2007 - Nonresident

Students enrolled in graduate courses are charged an additional \$50.00 per hour for Graduate Tuition.

Hours	Total**	Tuition***	Mandatory Fees****	Instructional Fees**	Graduate Courses (Includes Graduate Tuition*****)
1.0	\$ 660.60	\$ 415.50	\$ 245.10	**	\$ 707.35
1.5	\$ 893.48	\$ 623.25	\$ 270.23	**	\$ 963.60
2.0	\$1,126.35	\$ 831.00	\$ 295.35	**	\$ 1,219.85
2.5	\$1,359.23	\$1,038.75	\$ 320.48	**	\$ 1,476.10
3.0	\$1,592.10	\$1,246.50	\$ 345.60	**	\$ 1,732.35
3.5	\$1,824.98	\$1,454.25	\$ 370.73	**	\$ 1,988.60
4.0	\$2,057.85	\$1,662.00	\$ 395.85	**	\$ 2,244.85
4.5	\$2,290.73	\$1,869.75	\$ 420.98	**	\$ 2,501.10
5.0	\$2,523.60	\$2,077.50	\$ 446.10	**	\$ 2,757.35
5.5	\$2,756.48	\$2,285.25	\$ 471.23	**	\$ 3,013.60
6.0	\$2,989.35	\$2,493.00	\$ 496.35	**	\$ 3,269.85
6.5	\$3,222.23	\$2,700.75	\$ 521.48	**	\$ 3,526.10
7.0	\$3,455.10	\$2,908.50	\$ 546.60	**	\$ 3,782.35
7.5	\$3,687.98	\$3,116.25	\$ 571.73	**	\$ 4,038.60
8.0	\$3,920.85	\$3,324.00	\$ 596.85	**	\$ 4,294.85
8.5	\$4,153.73	\$3,531.75	\$ 621.98	**	\$ 4,551.10
9.0	\$4,386.60	\$3,739.50	\$ 647.10	**	\$ 4,807.35
9.5	\$4,619.48	\$3,947.25	\$ 672.23	**	\$ 5,063.60
10.0	\$4,852.35	\$4,155.00	\$ 697.35	**	\$ 5,319.85
10.5	\$5,085.23	\$4,362.75	\$ 722.48	**	\$ 5,576.10
11.0	\$5,318.10	\$4,570.50	\$ 747.60	**	\$ 5,832.35
11.5	\$5,550.98	\$4,778.25	\$ 772.73	**	\$ 6,088.60
12.0	\$5,783.85	\$4,986.00	\$ 797.85	**	\$ 6,344.85
12.5	\$6,016.73	\$5,193.75	\$ 822.98	**	\$ 6,601.10
13.0	\$6,249.60	\$5,401.50	\$ 848.10	**	\$ 6,857.35

Hours	Total**	Tuition***	Mandatory Fees****	Instructional Fees**	Graduate Courses (Includes Graduate Tuition****)
13.5	\$6,482.48	\$5,609.25	\$ 873.23	**	\$ 7,113.60
14.0	\$6,715.35	\$5,817.00	\$ 898.35	**	\$ 7,369.85
14.5	\$6,948.23	\$6,024.75	\$ 923.48	**	\$ 7,626.10
15.0	\$7,181.10	\$6,232.50	\$ 948.60	**	\$ 7,882.35
15.5	\$7,406.98	\$6,440.25	\$ 966.73	**	\$ 8,131.60
16.0	\$7,632.85	\$6,648.00	\$ 984.85	**	\$ 8,380.85
16.5	\$7,858.73	\$6,855.75	\$1,002.98	**	\$ 8,630.10
17.0	\$8,084.60	\$7,063.50	\$1,021.10	**	\$ 8,879.35
17.5	\$8,310.48	\$7,271.25	\$1,039.23	**	\$ 9,128.60
18.0	\$8,536.35	\$7,479.00	\$1,057.35	**	\$ 9,377.85
18.5	\$8,762.23	\$7,686.75	\$1,075.48	**	\$ 9,627.10
19.0	\$8,988.10	\$7,894.50	\$1,093.60	**	\$ 9,876.35
19.5	\$9,213.98	\$8,102.25	\$1,111.73	**	\$ 10,125.60
20.0	\$9,439.85	\$8,310.00	\$1,129.85	**	\$10,374.85

All Fees Subject To Change

Notes for Fall and Spring:

The following fees are waived for students taking all of their courses at locations other than the Denton campus: Student Union Fee, Medical Service Fee, Transportation Fee and Recreational Facilities Fee.

* Because 2006-07 tuition and fee rates are subject to change by action of the Texas Legislature and/or the UNT Board of Regents, the above listed fees should be used for estimation purposes only.

** Instructional fees vary by course and are not included in the totals above.

*** Includes state-mandated tuition of \$50 per hour (or \$325 per hour for non-residents), plus additional tuition, formerly listed as the general use fee, at \$90.50 per hour.

**** "Explanation of Fees," below, lists mandatory fees.

***** Graduate students do not pay undergraduate advising fee.

Estimated Tuition and Fees*

Summer 2007 3 Week 1 - Texas Resident

Students enrolled in graduate courses are charged an additional \$50.00 per hour for Graduate Tuition.

Hours	Total**	Tuition***	Mandatory Fees****	Instructional Fees**	Graduate Courses (Includes Graduate Tuition****)
1.0	\$ 239.46	\$ 140.50	\$ 98.96	**	\$ 286.21
1.5	\$ 334.84	\$ 210.75	\$ 124.09	**	\$ 404.96
2.0	\$ 430.21	\$ 281.00	\$ 149.21	**	\$ 523.71
2.5	\$ 525.59	\$ 351.25	\$ 174.34	**	\$ 642.46
3.0	\$ 620.96	\$ 421.50	\$ 199.46	**	\$ 761.21
3.5	\$ 716.34	\$ 491.75	\$ 224.59	**	\$ 879.96
4.0	\$ 811.71	\$ 562.00	\$ 249.71	**	\$ 998.71

All Fees Subject To Change

Visit the Student Accounting and University Cashiering Services web site at essc.unt.edu/saucs for charges for additional tuition and fee information.

Estimated Tuition and Fees*
Summer 2007 3 Week 1 - Nonresident

Students enrolled in graduate courses are charged an additional \$50.00 per hour for Graduate Tuition.

Hours	Total**	Tuition***	Mandatory Fees****	Instructional Fees**	Graduate Courses
					(Includes Graduate Tuition****)
1.0	\$ 514.46	\$ 415.50	\$ 98.96	**	\$ 561.21
1.5	\$ 747.34	\$ 623.25	\$ 124.09	**	\$ 817.46
2.0	\$ 980.21	\$ 831.00	\$ 149.21	**	\$1,073.71
2.5	\$1,213.09	\$1,038.75	\$ 174.34	**	\$1,329.96
3.0	\$1,445.96	\$1,246.50	\$ 199.46	**	\$1,586.21
3.5	\$1,678.84	\$1,454.25	\$ 224.59	**	\$1,842.46
4.0	\$1,911.71	\$1,662.00	\$ 249.71	**	\$2,098.71

All Fees Subject To Change

Visit the Student Accounting and University Cashiering Services web site at essc.unt.edu/saucs for charges for additional tuition and fee information.

Estimated Tuition and Fees*
Summer 2007 5 Week 1 or 2 - Texas Resident

Students enrolled in graduate courses are charged an additional \$50.00 per hour for Graduate Tuition.

Hours	Total**	Tuition***	Mandatory Fees****	Instructional Fees**	Graduate Courses
					(Includes Graduate Tuition****)
1.0	\$ 288.18	\$ 140.50	\$ 147.68	**	\$ 334.93
1.5	\$ 383.56	\$ 210.75	\$ 172.81	**	\$ 453.68
2.0	\$ 478.93	\$ 281.00	\$ 197.93	**	\$ 572.43
2.5	\$ 574.31	\$ 351.25	\$ 223.06	**	\$ 691.18
3.0	\$ 669.68	\$ 421.50	\$ 248.18	**	\$ 809.93
3.5	\$ 765.06	\$ 491.75	\$ 273.31	**	\$ 928.68
4.0	\$ 860.43	\$ 562.00	\$ 298.43	**	\$ 1,047.43
4.5	\$ 955.81	\$ 632.25	\$ 323.56	**	\$ 1,166.18
5.0	\$1,051.18	\$ 702.50	\$ 348.68	**	\$ 1,284.93
5.5	\$1,146.56	\$ 772.75	\$ 373.81	**	\$ 1,403.68
6.0	\$1,241.93	\$ 843.00	\$ 398.93	**	\$ 1,522.43
6.5	\$1,337.31	\$ 913.25	\$ 424.06	**	\$ 1,641.18
7.0	\$1,432.68	\$ 983.50	\$ 449.18	**	\$ 1,759.93
7.5	\$1,528.06	\$1,053.75	\$ 474.31	**	\$ 1,878.68
8.0	\$1,616.43	\$1,124.00	\$ 492.43	**	\$ 1,990.43
8.5	\$1,704.81	\$1,194.25	\$ 510.56	**	\$ 2,102.18
9.0	\$1,793.18	\$1,264.50	\$ 528.68	**	\$ 2,213.93
9.5	\$1,881.56	\$1,334.75	\$ 546.81	**	\$ 2,325.68
10.0	\$1,969.93	\$1,405.00	\$ 564.93	**	\$ 2,437.43
10.5	\$2,058.31	\$1,475.25	\$ 583.06	**	\$ 2,549.18
11.0	\$2,146.68	\$1,545.50	\$ 601.18	**	\$ 2,660.93
11.5	\$2,235.06	\$1,615.75	\$ 619.31	**	\$ 2,772.68
12.0	\$2,323.43	\$1,686.00	\$ 637.43	**	\$ 2,884.43

All Fees Subject To Change

Estimated Tuition and Fees*
Summer 2007 5 Week 1 or 2 - Nonresident

Students enrolled in graduate courses are charged an additional \$50.00 per hour for Graduate Tuition.

Hours	Total**	Tuition***	Mandatory Fees****	Instructional Fees**	Graduate Courses
					(Includes Graduate Tuition*****)
1.0	\$ 563.18	\$ 415.50	\$ 147.68	**	\$ 609.93
1.5	\$ 796.06	\$ 623.25	\$ 172.81	**	\$ 866.18
2.0	\$1,028.93	\$ 831.00	\$ 197.93	**	\$ 1,122.43
2.5	\$1,261.81	\$1,038.75	\$ 223.06	**	\$ 1,378.68
3.0	\$1,494.68	\$1,246.50	\$ 248.18	**	\$ 1,634.93
3.5	\$1,727.56	\$1,454.25	\$ 273.31	**	\$ 1,891.18
4.0	\$1,960.43	\$1,662.00	\$ 298.43	**	\$ 2,147.43
4.5	\$2,193.31	\$1,869.75	\$ 323.56	**	\$ 2,403.68
5.0	\$2,426.18	\$2,077.50	\$ 348.68	**	\$ 2,659.93
5.5	\$2,659.06	\$2,285.25	\$ 373.81	**	\$ 2,916.18
6.0	\$2,891.93	\$2,493.00	\$ 398.93	**	\$ 3,172.43
6.5	\$3,124.81	\$2,700.75	\$ 424.06	**	\$ 3,428.68
7.0	\$3,357.68	\$2,908.50	\$ 449.18	**	\$ 3,684.93
7.5	\$3,590.56	\$3,116.25	\$ 474.31	**	\$ 3,941.18
8.0	\$3,816.43	\$3,324.00	\$ 492.43	**	\$ 4,190.43
8.5	\$4,042.31	\$3,531.75	\$ 510.56	**	\$ 4,439.68
9.0	\$4,268.18	\$3,739.50	\$ 528.68	**	\$ 4,688.93
9.5	\$4,494.06	\$3,947.25	\$ 546.81	**	\$ 4,938.18
10.0	\$4,719.93	\$4,155.00	\$ 564.93	**	\$ 5,187.43
10.5	\$4,945.81	\$4,362.75	\$ 583.06	**	\$ 5,436.68
11.0	\$5,171.68	\$4,570.50	\$ 601.18	**	\$ 5,685.93
11.5	\$5,397.56	\$4,778.25	\$ 619.31	**	\$ 5,935.18
12.0	\$5,623.43	\$4,986.00	\$ 637.43	**	\$ 6,184.43

All Fees Subject To Change

Estimated Tuition and Fees*
Summer 2007 8 Week 1 - Texas Resident

Students enrolled in graduate courses are charged an additional \$50.00 per hour for Graduate Tuition.

Hours	Total**	Tuition***	Mandatory Fees****	Instructional Fees**	Graduate Courses
					(Includes Graduate Tuition*****)
1.0	\$ 336.89	\$ 140.50	\$ 196.39	**	\$ 383.64
1.5	\$ 432.27	\$ 210.75	\$ 221.52	**	\$ 502.39
2.0	\$ 527.64	\$ 281.00	\$ 246.64	**	\$ 621.14
2.5	\$ 623.02	\$ 351.25	\$ 271.77	**	\$ 739.89
3.0	\$ 718.39	\$ 421.50	\$ 296.89	**	\$ 858.64
3.5	\$ 813.77	\$ 491.75	\$ 322.02	**	\$ 977.39
4.0	\$ 909.14	\$ 562.00	\$ 347.14	**	\$ 1,096.14
4.5	\$1,004.52	\$ 632.25	\$ 372.27	**	\$ 1,214.89
5.0	\$1,099.89	\$ 702.50	\$ 397.39	**	\$ 1,333.64
5.5	\$1,195.27	\$ 772.75	\$ 422.52	**	\$ 1,452.39

Hours	Total**	Tuition***	Mandatory Fees****	Instructional Fees**	Graduate Courses (Includes Graduate Tuition*****)
6.0	\$1,290.64	\$ 843.00	\$ 447.64	**	\$ 1,571.14
6.5	\$1,386.02	\$ 913.25	\$ 472.77	**	\$ 1,689.89
7.0	\$1,481.39	\$ 983.50	\$ 497.89	**	\$ 1,808.64
7.5	\$1,576.77	\$1,053.75	\$ 523.02	**	\$ 1,927.39
8.0	\$1,665.14	\$1,124.00	\$ 541.14	**	\$ 2,039.14
8.5	\$1,753.52	\$1,194.25	\$ 559.27	**	\$ 2,150.89
9.0	\$1,841.89	\$1,264.50	\$ 577.39	**	\$ 2,262.64
9.5	\$1,930.27	\$1,334.75	\$ 595.52	**	\$ 2,374.39
10.0	\$2,018.64	\$1,405.00	\$ 613.64	**	\$ 2,486.14
10.5	\$2,107.02	\$1,475.25	\$ 631.77	**	\$ 2,597.89
11.0	\$2,195.39	\$1,545.50	\$ 649.89	**	\$ 2,709.64
11.5	\$2,283.77	\$1,615.75	\$ 668.02	**	\$ 2,821.39
12.0	\$2,372.14	\$1,686.00	\$ 686.14	**	\$ 2,933.14

All Fees Subject To Change

Estimated Tuition and Fees*

Summer 2007 8 Week 1 - Nonresident

Students enrolled in graduate courses are charged an additional \$50.00 per hour for Graduate Tuition.

Hours	Total**	Tuition***	Mandatory Fees****	Instructional Fees**	Graduate Courses (Includes Graduate Tuition*****)
1.0	\$ 611.89	\$ 415.50	\$ 196.39	**	\$ 658.64
1.5	\$ 844.77	\$ 623.25	\$ 221.52	**	\$ 914.89
2.0	\$1,077.64	\$ 831.00	\$ 246.64	**	\$ 1,171.14
2.5	\$1,310.52	\$1,038.75	\$ 271.77	**	\$ 1,427.39
3.0	\$1,543.39	\$1,246.50	\$ 296.89	**	\$ 1,683.64
3.5	\$1,776.27	\$1,454.25	\$ 322.02	**	\$ 1,939.89
4.0	\$2,009.14	\$1,662.00	\$ 347.14	**	\$ 2,196.14
4.5	\$2,242.02	\$1,869.75	\$ 372.27	**	\$ 2,452.39
5.0	\$2,474.89	\$2,077.50	\$ 397.39	**	\$ 2,708.64
5.5	\$2,707.77	\$2,285.25	\$ 422.52	**	\$ 2,964.89
6.0	\$2,940.64	\$2,493.00	\$ 447.64	**	\$ 3,221.14
6.5	\$3,173.52	\$2,700.75	\$ 472.77	**	\$ 3,477.39
7.0	\$3,406.39	\$2,908.50	\$ 497.89	**	\$ 3,733.64
7.5	\$3,639.27	\$3,116.25	\$ 523.02	**	\$ 3,989.89
8.0	\$3,865.14	\$3,324.00	\$ 541.14	**	\$ 4,239.14
8.5	\$4,091.02	\$3,531.75	\$ 559.27	**	\$ 4,488.39
9.0	\$4,316.89	\$3,739.50	\$ 577.39	**	\$ 4,737.64
9.5	\$4,542.77	\$3,947.25	\$ 595.52	**	\$ 4,986.89
10.0	\$4,768.64	\$4,155.00	\$ 613.64	**	\$ 5,236.14
10.5	\$4,994.52	\$4,362.75	\$ 631.77	**	\$ 5,485.39
11.0	\$5,220.39	\$4,570.50	\$ 649.89	**	\$ 5,734.64
11.5	\$5,446.27	\$4,778.25	\$ 668.02	**	\$ 5,983.89
12.0	\$5,672.14	\$4,986.00	\$ 686.14	**	\$ 6,233.14

All Fees Subject To Change

Estimated Tuition and Fees*
Summer 2007 10 Week or Longer - Texas Resident

Students enrolled in graduate courses are charged an additional \$50.00 per hour for Graduate Tuition.

Hours	Total**	Tuition***	Mandatory Fees****	Instructional Fees**	Graduate Courses (Includes Graduate Tuition*****)
1.0	\$ 385.60	\$ 140.50	\$ 245.10	**	\$ 432.35
1.5	\$ 480.98	\$ 210.75	\$ 270.23	**	\$ 551.10
2.0	\$ 576.35	\$ 281.00	\$ 295.35	**	\$ 669.85
2.5	\$ 671.73	\$ 351.25	\$ 320.48	**	\$ 788.60
3.0	\$ 767.10	\$ 421.50	\$ 345.60	**	\$ 907.35
3.5	\$ 862.48	\$ 491.75	\$ 370.73	**	\$ 1,026.10
4.0	\$ 957.85	\$ 562.00	\$ 395.85	**	\$ 1,144.85
4.5	\$1,053.23	\$ 632.25	\$ 420.98	**	\$ 1,263.60
5.0	\$1,148.60	\$ 702.50	\$ 446.10	**	\$ 1,382.35
5.5	\$1,243.98	\$ 772.75	\$ 471.23	**	\$ 1,501.10
6.0	\$1,339.35	\$ 843.00	\$ 496.35	**	\$ 1,619.85
6.5	\$1,434.73	\$ 913.25	\$ 521.48	**	\$ 1,738.60
7.0	\$1,530.10	\$ 983.50	\$ 546.60	**	\$ 1,857.35
7.5	\$1,625.48	\$1,053.75	\$ 571.73	**	\$ 1,976.10
8.0	\$1,713.85	\$1,124.00	\$ 589.85	**	\$ 2,087.85
8.5	\$1,802.23	\$1,194.25	\$ 607.98	**	\$ 2,199.60
9.0	\$1,890.60	\$1,264.50	\$ 626.10	**	\$ 2,311.35
9.5	\$1,978.98	\$1,334.75	\$ 644.23	**	\$ 2,423.10

All Fees Subject To Change

Estimated Tuition and Fees*
Summer 2007 10 Week or Longer - Nonresident

Students enrolled in graduate courses are charged an additional \$50.00 per hour for Graduate Tuition.

Hours	Total**	Tuition***	Mandatory Fees****	Instructional Fees**	Graduate Courses (Includes Graduate Tuition*****)
1.0	\$ 660.60	\$ 415.50	\$ 245.10	**	\$ 707.35
1.5	\$ 893.48	\$ 623.25	\$ 270.23	**	\$ 963.60
2.0	\$1,126.35	\$ 831.00	\$ 295.35	**	\$ 1,219.85
2.5	\$1,359.23	\$1,038.75	\$ 320.48	**	\$ 1,476.10
3.0	\$1,592.10	\$1,246.50	\$ 345.60	**	\$ 1,732.35
3.5	\$1,824.98	\$1,454.25	\$ 370.73	**	\$ 1,988.60
4.0	\$2,057.85	\$1,662.00	\$ 395.85	**	\$ 2,244.85
4.5	\$2,290.73	\$1,869.75	\$ 420.98	**	\$ 2,501.10
5.0	\$2,523.60	\$2,077.50	\$ 446.10	**	\$ 2,757.35
5.5	\$2,756.48	\$2,285.25	\$ 471.23	**	\$ 3,013.60

Hours	Total**	Tuition***	Mandatory Fees****	Instructional Fees**	Graduate Courses (Includes Graduate Tuition*****)
6.0	\$2,989.35	\$2,493.00	\$ 496.35	**	\$ 3,269.85
6.5	\$3,222.23	\$2,700.75	\$ 521.48	**	\$ 3,526.10
7.0	\$3,455.10	\$2,908.50	\$ 546.60	**	\$ 3,782.35
7.5	\$3,687.98	\$3,116.25	\$ 571.73	**	\$ 4,038.60
8.0	\$3,913.85	\$3,324.00	\$ 589.85	**	\$ 4,287.85
8.5	\$4,139.73	\$3,531.75	\$ 607.98	**	\$ 4,537.10
9.0	\$4,365.60	\$3,739.50	\$ 626.10	**	\$ 4,786.35
9.5	\$4,591.48	\$3,947.25	\$ 644.23	**	\$ 5,035.60
10.0	\$4,817.35	\$4,155.00	\$ 662.35	**	\$ 5,284.85
10.5	\$5,043.23	\$4,362.75	\$ 680.48	**	\$ 5,534.10
11.0	\$5,269.10	\$4,570.50	\$ 698.60	**	\$ 5,783.35
11.5	\$5,494.98	\$4,778.25	\$ 716.73	**	\$ 6,032.60
12.0	\$5,720.85	\$4,986.00	\$ 734.85	**	\$ 6,281.85

All Fees Subject To Change

Notes for Summer:

The following fees are waived for students taking all of their courses at locations other than the Denton campus: Student Union Fee, Medical Service Fee, Transportation Fee and Recreational Facilities Fee.

* Because 2006-07 tuition and fee rates are subject to change by action of the Texas Legislature and/or the UNT Board of Regents, the above listed fees should be used for estimation purposes only.

** Instructional fees vary by course and are not included in the totals above.

*** Includes state-mandated tuition of \$50 per hour (or \$325 per hour for non-residents), plus additional tuition, formerly listed as the general use fee, at \$90.50 per hour.

**** "Explanation of Fees," below, lists mandatory fees.

***** Graduate students do not pay undergraduate advising fee.

Explanation of Fees (Fees are Subject to Change)

Visit the Student Accounting and University Cashiering Services web site (essc.unt.edu/saucs) for current fees.

Student Service Fees

Student service fees are assessed in proportion to the number of semester credit hours for which a student registers to cover the cost of student services that directly involve or benefit students, including, but not limited to, recreational activities, artist and lecture series, cultural entertainment series, debating and oratorical activities and student government.

Student Union Fee

A fixed student union fee is collected from each enrolled student for the purpose of operating, maintaining, improving and equipping the University Union. Activities financed by the student union fee are limited to those in which the entire student body is eligible to participate.

Technology Use Fee

The technology use fee is collected in proportion to the number of credit hours for which a student

registers to defray costs associated with the addition of instructional equipment in classrooms and student computer laboratories, development of the degree audit system and instruction-related activities in the Computing Center.

Library Use Fee

The library use fee is collected in proportion to the number of credit hours for which a student registers to support the development and maintenance of library collections and to provide expanded operating hours and other services to meet student needs.

Medical Services Fee

The fixed medical services fee is used solely to provide medical services to students enrolled at the university.

International Education Fee

A fixed international education fee is collected from each enrolled student to be used in support of an international education financial aid fund. This fund allows an equal opportunity for all students to participate in student exchange and study abroad programs.

Publication Fee

A fixed publication fee is collected from each enrolled student to defray costs associated with publication and distribution of schedules of classes, catalogs and other publications available to all students.

Recreational Facility Fee

A fixed recreational facility fee is collected from each enrolled student for the purpose of constructing and operating the Recreational Facility on campus.

Transportation Fee

The transportation fee supports the shuttle bus system that transports students to, and around, various locations on campus.

Undergraduate Advising Fee

The undergraduate advising fee supports the advising process for undergraduate students.

International Student Fee

A fixed international student fee is charged to all non-immigrant visa students for each term in which they enroll in UNT. The fee is billed with tuition and other fees and is **in addition** to totals listed above.

Property Damage Deposit

Each student who enrolls pays a property damage deposit that is refundable on request upon final withdrawal or graduation. If not claimed within four years after last enrollment date, the deposit is non-refundable. Refund request forms are available at Student Accounting and University Cashiering Services.

Fees Related to Instruction

Instructional fees fall into three fee categories: course fees, laboratory fees and special service fees. Please note that for billing purposes, these fee categories are grouped together and billed as one instructional fee.

Instructional fees are due at the time of registration or the payment deadline for early registered students. These fees are refundable according to the university refund policy. If a student desires to know what portion of an instructional fee falls into each category listed below, they may contact Student Accounting and University Cashiering Services at (940) 565-3225.

Course Fees

Course fees are charged to cover consumable supplies, syllabi, tests, salaries and wages of employees who assist in the preparation, distribution and supply of classroom materials and some equipment purchases related directly to student participation in the classroom or laboratory. Course fees can, in some instances, save students money by bulk purchasing of goods and services. These fees are set at the minimum

cost of services that all students in the department or division receive.

Laboratory Fees

Laboratory fees are only applicable to courses that require students to register for a laboratory section. Laboratory fees are collected to cover the cost of materials and supplies used by students in the laboratory. The laboratory fee may not be less than \$2 nor more than \$30 for any one term/semester or summer session.

Special Service Fees

Special service fees are collected to help offset the cost of materials and services a student is eligible to receive while enrolled in a course. These fees are directly related to classroom, laboratory or practicum activity and may cover the wages of employees who assist in the instructional process such as models, tutors, proctors or laboratory assistants.

The chart below shows the typical breakdown of course fees charged by UNT. Fees are subject to change. Visit essc.unt.edu/saucs/tuition.htm for current information.

Amount of Fee*	Number of Courses*
\$0 – \$30	2,771
\$31 – \$50	1,076
\$51 – \$100	666
\$101 – \$150	85
\$151 – \$200	45
\$201 – \$250	19
\$251 – \$300	12
\$301 – \$350	17
\$351 – \$400	7
Over \$400	19

Fees based on information available as of March 2004 for Fall 2005. Fees for Fall 2006 are expected to be comparable. *Fees are subject to change.*

Admission Application Fee

U.S. citizens and permanent resident aliens applying to the University of North Texas Toulouse School of Graduate Studies must pay a \$50 non-refundable admission application fee. The fee must be paid in U.S. dollars.

International students applying to the University of North Texas Toulouse School of Graduate Studies must pay a \$75 non-refundable admission application fee. The fee must be paid in U.S. dollars.

Admission applications will not be processed until after the application fee is received. Admission decisions will be made after all academic credentials are received and evaluated.

Contact the Toulouse School of Graduate Studies for more information at (940) 565-2636, (888) UNT-GRAD [868-4723], Dallas–Fort Worth metro (817) 267-3731, or by e-mail at gradschool@unt.edu.

Option to Pay Tuition by Installment

The Texas Legislature has the authority to modify or eliminate installment payment of tuition at each regular or called legislative session.

UNT provides for the payment of tuition and fees during the fall and spring terms/semesters through the following alternatives:

1. full payment of tuition and fees upon registration or by the payment deadline for early registration; or
2. one-half payment of tuition and fees upon registration, or by the payment deadline for early registration, with separate one-fourth payments prior to the start of the 6th and 11th class weeks. **Note:** All course-related or optional fees are paid with the initial installment payment.

Tuition and fees must be paid in full for each summer session upon registration or by the payment deadline for early registration. Tuition payment by installment is not offered during the summer.

Non-Refundable Fees for Tuition by Installment

Handling fee: \$12.50

NOTE: All instructional fees and optional fees are paid with the initial installment payment including the non-refundable handling fee of \$12.50. Students who choose the installment plan option recognize they are in a contractual relationship and accept the terms of the installment plan contract.

A student who fails to make payment of tuition and fees (including any incidental fees) by the due date may be prohibited from registering for classes until full payment is made. A student who fails to make payment prior to the end of the term/semester may be denied credit for the work done that term/semester.

See *Schedule of Classes* for procedures and policies concerning installment payment of tuition.

Tuition and Fee Payments

Credit card payments (MasterCard, Visa, American Express and Discover) and check payment may be made through self-service at my.unt.edu. Tuition and fee payments may be made by personal check, money order, cashier's check or cash. Student Accounting and University Cashiering Services requires the student identification number to be recorded on all check and money order payments made in person.

Bills are not mailed for registration. Account balances and schedule information may be obtained through self-service at my.unt.edu.

Cash Payments

Cash payments are accepted only at Student Accounting and University Cashiering Services, located in the Eagle Student Services Center. Please do not mail cash payments.

Tuition and Fee Policies

Tuition covers undergraduate and graduate work. It and the various fees provide limited health services and admission to university-sponsored fine arts and athletic events. Instructional fees, materials fees and private instruction fees are additional. Students must purchase their own textbooks and supplies.

Fees charged for late registration, duplication of records, graduation and regalia, late filing for graduation, replacement diplomas and miscellaneous items are noted at essc.unt.edu/saucs.

Residency Regulations for Tuition Purposes

Rules and regulations for determining residence status are specified under Title 3 of the Texas Education Code and are available at the Texas Higher Education Coordinating Board, College for Texans web site at www.collegefortexans.com. In general, students must domicile and physically reside in Texas for the 12-month period immediately preceding their initial registration in an educational institution in Texas. Other factors may be considered for residency determination for tuition.

Students who are not legal residents of Texas must pay nonresident tuition, including the statutory tuition charges and standard university fees approved by the Board of Regents. Admission requirements for nonresidents are the same as for resident students.

Certain residency exceptions do not affect actual residency status but do allow for a nonresident tuition exemption. Refer to "Tuition and Fee Waivers" below for further information.

Responsibility of the Student

The student is responsible for knowing residence status and for registering under the proper status. Any questions concerning residence must be discussed with the proper authority in the Office of Admissions and/or Registrar's Office prior to registration.

Any student erroneously classified as a resident will be reclassified and will be required to pay all out-of-state tuition due. Attempts to evade nonresident fees may subject the student to the statute penalty and to possible disciplinary action.

Change of Status Nonresident to Resident

A student who is at any time classified as a nonresident retains nonresident status until reclassification as a resident is applied for and is officially approved by the Registrar.

Change of Status Resident to Nonresident

Students who are classified as residents but become nonresidents by virtue of any change of domicile must notify the Registrar of such change immediately. Students who believe they have been

erroneously classified have the opportunity for appeal. The appeal is to be made to the authority by whom the original classification was assigned, either in the Office of Admissions or in the Registrar's Office.

Tuition and Fee Waivers

Several exemptions and waivers are available to qualifying students. Brief descriptions of these are listed below. Waiver refunds must be requested during the term semester application is made. Such requests must be made prior to the 12th class day in long terms/semesters, the 4th class day in summer sessions (except 3W1) and the 2nd class day in 3W1 (three-week one). Requests for retroactive refunds cannot be honored. Information regarding waivers and exemptions is available at Student Accounting and University Cashiering Services or at esc.unt.edu/saucs/payment.htm. **Posted waivers are subject to post audit and correction.**

Exemptions and Waivers

1. Certain veterans, dependents, etc., of the armed forces of the United States are exempted from payment of tuition.
2. Certain orphans of members of the U.S. armed forces, Texas National Guard and Texas Air National Guard are exempted from payment of tuition.
3. Certain students from other nations of the American hemisphere are exempted from payment of tuition.
4. Deaf or blind Texas residents are exempted from payment of tuition and mandatory fees.
5. Certain disabled peace officers are exempted from payment of tuition and fees.
6. Children of disabled firemen, peace officers, employees of the Texas Department of Corrections and game wardens are exempted from payment of tuition.
7. Children of U.S. prisoners of war or persons missing in action are granted exemption of tuition.
8. Resident rather than nonresident tuition is applied to out-of-state students enrolled through the Academic Common Market.
9. Resident rather than nonresident tuition is applied to U.S. military personnel and dependents. (Certificate must be approved by the Registrar prior to registration.)
10. Resident rather than nonresident tuition is applied to teachers and professors of Texas state institutions of higher education, their spouses and their children.
11. Resident rather than nonresident tuition is applied to a teaching or research assistant provided the student is employed at least one-half time by UNT in a position that relates to the degree sought.
12. Resident rather than nonresident tuition is applied to a nonresident holding a UNT competitive academic

scholarship of at least \$1,000 for the academic year or summer for which the student is enrolled.

13. Certain university fees are waived for students enrolled only in courses designated as off-campus or internships.
14. Highest-ranking graduates (valedictorians) of accredited Texas high schools are exempted from payment of tuition for the first two long terms/semesters after graduation from high school. Student must pay mandatory fees and course fees.
15. Certain Texas residents who are or have been adopted, in foster care or other residential care are exempted from payment of tuition and mandatory fees.
16. Certain Texas residents who have received financial assistance under Chapter 31 of the Human Resources Code (AFDC) qualify for a tuition and fee waiver for one year.
17. Resident rather than nonresident tuition is applied to individuals and dependents relocating to Texas as part of the program of state economic development and diversification.
18. Certain early high school graduates from Texas are exempt from the payment of tuition. Student must pay mandatory fees and instructional fees.
19. Students 65 years or older are exempt from paying tuition and graduate tuition up to 6 credit hours each term/semester. Students must pay mandatory fees and instructional fees.
20. Certain educational aides who are employed in the state of Texas may be exempted from payment of tuition and fees.

Tuition and Fee Refunds

A student who drops a course or withdraws from the university within certain time periods may be entitled to a partial refund of tuition and fees. These refunds are calculated according to the category and time schedule listed below. Delinquent payment fees, late registration charges, publication fees and installment handling fees are non-refundable. Any financial obligation to UNT must be resolved before any refunds will be made.

Class Drop Refunds

Refunds are made for any course dropped through the 12th class day for the long term/semester, corresponding dates are set for summer terms/sessions. See the *Academic Calendar* for specific dates. The semester's first class day is always the first official university day of classes and not the first day of an individual's class.

Refunds for dropped classes are processed after midsemester. **Note:** If all classes for the term/semester are dropped, see "Schedule of Withdrawal Refunds."

Students applying for financial aid are required to notify Student Financial Aid and Scholarships before

dropping any class to learn how it will affect current or future financial aid eligibility.

Withdrawal from the University

Withdrawal refunds are determined by the number of enrolled semester credit hours at the time of withdrawal. Withdrawal percentages are applied to the total amount of tuition and fees as prescribed by state law, not the amount paid. The withdrawal schedule and percentages of refund shown below pertain to total withdrawal from the term/semester and are mandated by the state legislature. The term/semester's first class day is always the first official university day of classes and not the first day the individual attends class. A withdrawal refund is based on the day of withdrawal, regardless of the date the class first meets.

Additional information may be found online at essc.unt.edu/saucs or by contacting Student Accounting and University Cashiering Services.

The withdrawal schedule and percentage of a pro-rata refund pertain to total withdrawal from the term/semester and are mandated by federal law. Please contact Student Financial Aid and Scholarships regarding pro-rata refund schedules and percentages.

Refund of Property Damage Deposit

A student who does not return to the university because of graduation or withdrawal from school will receive a refund of the property damage deposit. Students who transfer to another institution or stop attending UNT must request a refund of the property damage deposit. If not claimed within four years after the last enrollment date, the deposit is non-refundable and the proceeds are used to fund scholarships and student union activities.

Request for a refund of this deposit should be made to Student Accounting and University Cashiering Services.

Schedule of Withdrawal Refunds, 2006–2007

Withdrawal Dates	Percent of Refund (less non-refundable fees)
Fall 2006	
Through 8/19/2006	100%
8/21/06–8/26/06	80%
8/28/06–9/4/06	70%
9/5/06–9/11/06	50%
9/12/06–9/18/06	25%
Spring 2007	
Through 1/6/2007	100%
1/8/07–1/15/07	80%
1/16/07–1/22/07	70%
1/23/07–1/29/07	50%
1/30/07–2/5/07	25%

Note: Some fees are non-refundable.

Delinquent payment fees, late registration charges, publication fees, and the installment handling fee are non-refundable.

Room and Board

Room and board fees are subject to increase and decrease by action of the Texas Legislature and/or the UNT Board of Regents.

For information concerning fees charged for residence hall living, go to www.unt.edu/housing or write to the Housing Department, P.O. Box 311310, Denton, TX 76203-1310. Tuition and fees information is available online at www.unt.edu/saucs.

General Financial Policies

UNT is a state-assisted institution subject to state laws. Extension of credit is prohibited and all financial obligations to the university must be paid when due. Tuition, fees, and room and board are subject to change by action of the Texas Legislature or the UNT Board of Regents.

Correction of Errors

Students are responsible for any additional amounts due UNT resulting from auditing and correction of records after registration fees have been paid including all registration assessment errors, change from off-campus to on-campus classes, invalid employment waivers, etc.

Payments by Third Party

Checks issued by a third party in payment of a student's tuition, fees or other charges made by UNT should be made payable to the student rather than solely to the university or jointly to the student and UNT. Arrangements may be made with Student Financial Aid and Scholarships in cases where cash amounts should not be made available to the student.

Returned Checks

A returned check is defined as any check, similar sight order, or electronic bank draft returned to the university unpaid due to no fault of the bank or the university.

Upon receipt of a returned check, notification is mailed to the issuing party or the individual in whose behalf the check was issued. The address on the check and/or the address in the official university records is used. The check is payable on or before 10 working days from the date of the notice. Only cash, cashier's check or money order is accepted for payment of the returned check and service charge (\$25 per check).

A student may be withdrawn immediately from the university if payment is not made within the stated time period. DO NOT, however, stop attending classes unless you receive official notification of your withdrawal. Notification of withdrawal is made to the

address on the check and/or the address in the official university records.

After the check and service charge are paid in full, a student may request reinstatement. This process must be initiated in person within five days from the date of withdrawal, and a \$40 reinstatement fee is charged. *A student may not be reinstated more than once per academic year.*

An appeal is possible if the student believes the university has prejudicially applied this return check policy. Notice of such intention must be given in writing to the Dean of Students Office within five days of the withdrawal date.

Check issuing privileges are suspended while any returned check and/or service charge are outstanding.

If the university receives three or more returned checks during an academic year, the check-issuing privileges of the individual are revoked.

If all attempts to collect a returned check have failed, a student may be dismissed from UNT and civil or criminal legal action may be taken in accordance with Texas state law (Sections 31.06 and 32.41 of the Texas Penal Code).

Stop-Payment on Tuition Checks

A student who has not already done so will be withdrawn from UNT on the date the returned stop-payment check is received by UNT. A returned check service charge (\$25 per check) will be assessed. Tuition refund charges are computed by normal refund policy.

If a student wishes to be withdrawn, the Registrar's Office should always be contacted as soon as possible.

Financial Aid

UNT provides several methods of assisting students in financing their education. Applications and complete descriptions of all programs, requirements and qualifications are available at Student Financial Aid and Scholarships, Eagle Student Services Center, or visit my.unt.edu or call (940) 565-2302.

Financial Assistance

Graduate Fellowships and Assistantships

Fellowships and assistantships are awarded annually by almost all departments of the university to qualified graduate students. The number awarded annually depends upon departmental needs for the services of such appointees. Compensation varies with the type of services rendered by the appointee, the amount of time required for performance of the duties, and individual academic qualifications and experience. Appointments and awards ordinarily are made by the departments early in the spring, to take effect at the beginning of the next academic year.

Qualified graduate students and prospective students should communicate directly with the chair of the major department to obtain information and applications. No fellowship or assistantship appointment is regarded as final until the applicant has obtained admission to the Toulouse School of Graduate Studies.

University of North Texas Doctoral and Master's Fellowships

The Toulouse School of Graduate Studies annually awards a number of generous fellowships to new doctoral and master's students. Eligibility for these fellowships is limited to students nominated by academic departments and programs from among new students beginning their doctoral or master's degree course work in the fall term/semester. In 2005–2006, the school was able to award 17 doctoral fellowships and 21 master's fellowships. Departmental nominations are normally due in the graduate school at the end of February each year.

The Doctoral Fellowships provide three years of support (with departmental assistance) for full-time study in pursuit of a doctoral degree. The fellowships provide \$20,000 for the first year of a doctoral student's graduate study. Departments receiving fellowships for their students guarantee that students will be supported for at least two succeeding full academic years, provided they maintain satisfactory progress toward the doctoral degree sought. Departmental support is equivalent to that provided other similarly situated students for teaching or research assistantships/fellowships or other appropriate professional work, except that departments also guarantee support through the summer sessions.

The Master's Fellowships provide one year of support for full-time study in pursuit of a master's degree. The fellowships are in the amount of \$10,000 for the first year of a master's student's full-time graduate study. Departments are encouraged to supplement the Master's Fellowships in whatever ways their resources allow.

Scholarships

Most graduate scholarships at UNT are awarded and administered by either the Toulouse School of Graduate Studies or the individual departments, schools and colleges. However, Student Financial Aid and Scholarships also offers a limited number of awards to graduate students.

UNT also participates in the National Merit Scholarship Program. Almost all scholarships are awarded on the basis of a student's academic qualifications.

Out-of-state and international students who are recipients of university competitive academic scholarships in the amount of \$1,000 or more may also receive a waiver of out-of-state tuition.

Applications and a brochure listing graduate scholarships are available on the second floor of the Eagle Student Services Center in Student Financial Aid and Scholarships. The application deadline for universitywide scholarships awarded by the University Scholarship Committee is March 31, unless otherwise noted. Applications for departmental scholarships, as well as deadline information, are available from the individual departments and schools of the university.

For additional requirements for fellowships, assistantships and scholarships, see the graduate studies web site: www.gradschool.unt.edu.

Financial Aid

UNT provides several methods of assisting students in financing their education. Applications and complete descriptions of all programs, requirements and qualifications are available at Student Financial Aid and Scholarships, Eagle Student Services Center, my.unt.edu, or call (940) 565-2302.

Application Period and Deadlines

The application period begins January 1 of each year for the following academic year (fall/spring/summer). The Free Application for Federal Student Aid (FAFSA) or Renewal Application is available each January for the upcoming academic year and should be completed as early as possible. Students may apply online at www.fafsa.ed.gov. Students whose application files are completed by the priority dates are ensured first consideration for awards. Application data is received electronically from the Central Processing System (Federal Student Aid Programs) through which applications are processed. It includes the data from the FAFSA or Renewal Application. The application data must reach our office before a file can be processed.

Priority Dates:

- Fall/spring term/semester: June 1
- Spring term/semester only: October 1
- Summer sessions: April 1

A separate UNT summer application must be completed for summer financial aid. This application is available online (my.unt.edu), or at Student Financial Aid and Scholarships in February for the following summer sessions. The FAFSA for the year preceding the summer is also required.

General Eligibility Requirements

Before any assistance is granted (Federal Pell Grant, Federal Supplemental Educational Opportunity Grant, Federal Work-Study, Federal Perkins Student Loan or Federal Stafford Loan), general eligibility and program requirements must be met. To be eligible for financial aid you must:

1. establish eligibility by completing and filing the Free Application for Federal Student Aid (FAFSA) or Renewal Application;

2. not be in default on any Title IV loan (Perkins or Stafford), or owe a refund or repayment on educational funds received at any institution;
3. be a U.S. citizen or eligible noncitizen;
4. be registered for the draft with the Selective Service if you are a male at least 18 years old born after December 31, 1959 (most males between the ages of 18 and 25, including permanent residents and other eligible noncitizens, are required to register with Selective Service);
5. enroll in and maintain at least a half-time class load;
6. use all funds received through financial aid for educational purposes;
7. be accepted for admission by the university and enrolled in a degree program;
8. be making satisfactory academic progress;
9. have a valid Social Security Number; and
10. have a high school diploma or a GED (general equivalency diploma).

Note: Transient and summer visiting students are not eligible for financial aid.

Special Conditions for Financial Aid Recipients

1. Students who withdraw from all classes must go to Student Financial Aid and Scholarships for official clearance before leaving the university.
2. **Refunds and Payments.** If you officially withdraw, cease attendance, or are administratively withdrawn from UNT, any refund of tuition and fees and other university charges will be assessed for return to programs from which you (or your parents if they received a Federal Parent Loan) were originally paid. An additional "repayment" calculation will be performed to determine if you must repay a portion of the assistance paid directly to you for living expenses.

Student Financial Aid and Scholarships personnel will apply the federally mandated formula for the return of financial aid funds. Funds will be returned to the programs from which the money was paid to you in the following order:

- Federal Stafford Loan Program
- Federal Perkins Loan Program
- Federal Parent Loan Program (PLUS)
- Federal Pell Grant Program
- Federal Supplemental Educational Opportunity Grant Program
- Other Title IV Program
- Other Federal, State, Private or Institutional Student Aid

In addition, it is possible you will owe a repayment of unearned financial aid funds if you cease enrollment prior to the 60 percent completion point of any enrollment period for which you received financial aid funds. The completion point is based on the total number of class days in an enrollment period.

3. Official transcripts are not issued to any student who has an unpaid account or owes a defaulted federal student loan received from any university.
4. Federal and state regulations require that each student maintain satisfactory academic progress to be eligible for financial aid programs. Minimum standards must be achieved by the end of any given enrollment period at UNT. Satisfactory academic progress is defined in both quantitative and qualitative measures. The quantitative measure requires an undergraduate to complete a minimum number of required course hours each term/semester of enrollment as defined below.

Number of registered hours	Minimum number of current earned hours and pass/no pass hours
16–19	12
12–15	9
6–11	6
3–5	3
2	2
1	1

The qualitative measure requires a graduate student to maintain a 3.0 grade point average in all enrolled hours including undergraduate courses. Enrollment hours for loan deferment and financial aid eligibility may differ from those published in this catalog. Also see “Enrollment Certification” in the Enrollment section of this catalog. Financial aid recipients must notify Student Financial Aid and Scholarships before dropping courses or withdrawing. Current term/semester, current year or future aid eligibility may be affected.

Students in an academic program under the graduate career (major or concentration) are required to enroll in at least 4 graduate hours per term/semester to be considered for financial aid.

5. Refer to the Financial Aid brochure for enrollment hour requirements. Full-time, three-quarter-time and half-time enrollment may be defined differently by the Registrar’s Office.

You may review additional and specific financial aid and scholarship information at my.unt.edu.

Other Assistance Programs

Available student financial aid loan programs are described below. If additional information is needed, contact Student Financial Aid and Scholarships.

Grant Programs

Texas Public Education Grant

Funds are awarded based upon availability of monies, established financial need, at least half-time enrollment, and maintaining satisfactory academic progress standards as defined by Student Financial Aid and Scholarships.

Partial Tuition Awards

Funds are awarded based on availability of monies, established financial need, at least half-time enrollment, and maintaining satisfactory academic progress standards as defined by the office of Student Financial Aid and Scholarships.

University of North Texas Grant

Funds are awarded based upon the availability of monies, expected family contribution, established financial need, at least half-time enrollment, and maintaining reasonable academic progress standards as defined by the Office of Student Financial Aid and Scholarships.

Benefits for Veterans

Students who have served on active duty may be eligible for educational benefits from the federal Department of Veterans Affairs.

The Department of Veterans Affairs also provides educational assistance to widows and children of veterans who died while in service or after discharge from a service-connected disability, and wives and children of veterans who have a service-connected disability considered to be total and permanent in nature. Forms and information concerning certification for VA benefit purposes are available in the Registrar’s Office.

Veterans with specific questions concerning the administration of benefits should contact the regional VA office in Waco at (800) 827-2012.

Hazelwood Act for Texas Veterans

Application forms and information on tuition waivers for qualified veterans are available at Student Accounting and University Cashiering Services, first floor, Eagle Student Services Center.

Employment

Federal Work-Study Program

Eligibility for the Federal Work-Study Program is determined by established financial need, at least half-time enrollment, and maintaining satisfactory academic progress standards as defined by the office of Student Financial Aid and Scholarships. Students awarded the Federal Work-Study Program are eligible to earn the financial aid amount awarded through a work-study job. Students may begin the job search process by visiting the Career Center web site at careercenter.unt.edu. Most positions require 15–20 hours of work per week. Students apply directly to the department with the open position listed on the web site. The employing department will select students for interviews based on availability of funds, student work skills, educational background and interest. Eligibility must be determined each term/semester to continue in the Federal Work-Study Program.

Career Center

The Career Center, located in Suite 320 on the third floor of the University Union, provides a variety of employment opportunities on and off campus to currently enrolled students in order to help them offset their college expenses and develop good work records. For information, call (940) 565-2105. Information regarding on- and off-campus jobs can be accessed on the web site (*careercenter.unt.edu*).

Loan Programs**Federal Perkins Student Loan**

The Federal Perkins Student Loan is federally funded. Awards are based upon available funds, established financial need, at least half-time enrollment, and maintaining satisfactory academic progress standards as defined by Student Financial Aid and Scholarships. Annual and aggregate limits are imposed based upon classification status.

Repayment begins nine months after termination of at least half-time enrollment, and general repayment criteria vary depending upon the time the funds are borrowed from the program.

Federal Stafford Loan

All Federal Stafford Loans are awarded based upon established financial need, at least half-time enrollment, and maintaining satisfactory academic progress standards as defined by Student Financial Aid and Scholarships. The Free Application for Federal Student Aid (FAFSA) must be submitted before an award will be determined. Maximum and aggregate limits are imposed based upon classification status. Repayment criteria vary depending upon the time the funds are borrowed.

Federal Unsubsidized Stafford Loan

This loan is awarded based upon at least half-time enrollment and maintaining satisfactory academic progress as defined by Student Financial Aid and Scholarships. The Free Application for Federal Student Aid (FAFSA) must be submitted before an award will be determined. Maximum and aggregate limits are imposed based upon classification status. Repayment begins six months after termination of at least half-time enrollment.

Division of Student Development

The Division of Student Development offers a wide variety of opportunities for academic and personal growth, leadership development and organizational involvement. Specific offices under the Vice President for Student Development include the Center for Student Rights and Responsibilities, Counseling and Testing Center, Dean of Students, Office of Disability Accommodation, Student Health and Wellness Center, Learning Center, New Student and Mentoring Programs, Recreational Sports, Student Activities and Organizations, the Career Center, the University Union, and Student Legal Services.

The Division of Student Development is committed to the improvement of the quality of life for students and to the enhancement of their competencies as productive citizens. The division advocates responsible behavior, supports learning and promotes the attainment of personal and cultural goals through varied activities. For information, call (940) 565-4909.

The Learning Center

The Learning Center was created to supplement and support academic excellence and life-long learning. A wide range of individual, group and self-help programs and materials is provided to maximize the academic potential of all University of North Texas students. Online tutoring, RASSL (Reading and Study Skills Laboratories), Supplemental Instruction, Supplemental Tutoring, Connecting for Success, The Volunteer Tutor Program and the Learning Resource Center are all housed in the center.

Online tutoring provides UNT students with free interactive tutoring 24 hours a day, seven days per week through *Smartthinking.com*

Reading and Study Skills Laboratory (RASSL) is a non-credit workshop designed to help students enhance their skills in studying, test taking, presenting, money management, note taking, goal setting and time management. The groups are small and students are encouraged to share their experiences with academic difficulties and success.

Speed Reading is a non-credit workshop designed to increase reading speed while maintaining or improving retention.

Supplemental Instruction and Supplemental Tutoring place peer tutors in difficult courses to help students clarify material. These tutors facilitate group learning outside of class, while modeling transferable study skills that will help students in other courses.

Volunteer Tutors offer their time and expertise for free. The tutors are upper-class students who have done well in the courses they tutor and are eager to help others succeed.

The **Learning Resource Library** provides books and computer programs to assist students with preparation for graduate school admission exams.

Connecting for Success provides linkages to academic resources throughout the university. Students can contact those resources that might be most helpful to them.

Commuter and Nontraditional Student Services

The university provides a number of services to commuter and nontraditional students. Special assistance with problems and liaison for proper referrals, in addition to self-help materials for off-campus living, day-care and other issues is available through this office. Additionally, students can register for the carpool and ride share program online at web2.unt.edu/carpool. Commuter Services is located in the Student Activities Center, University Union, Suite 216I. Call (940) 565-3807 for more information.

The University Union provides lounge areas, rental lockers (available on a term/semester basis) and food service. Contact the University Union Office at (940) 565-3805, for more information.

Center for Student Rights and Responsibilities

The Center for Student Rights and Responsibilities (CSRR) is responsible for addressing student conduct, enforcing university policies and procedures and providing students with the resources necessary to resolve their own personal disputes. The CSRR administers student disciplinary procedures in accordance with the Code of Student Conduct and maintains official disciplinary records. However, emphasis is placed on educating students about their rights and responsibilities as members of the University of North Texas community. In addition, the CSRR seeks to educate the campus community through literature and training about the services it offers. The office provides policy interpretation and rights adjustment as well as handling complaints against students. The CSRR is committed to enhancing students' competencies as productive citizens and promoting life-long learning and community standards.

Cooperative Education and Internships

The university offers off-campus learning opportunities through the Cooperative Education and Internships Program. Cooperative education experiences are processes of education that formally integrate students' academic studies with practical experience in paid positions that involve multiple work terms/semesters with participating employers. Through this integration of study and practical experience, students may enhance their academic knowledge, their personal development and their professional preparation. The teaching faculty and on-site supervisors share in the education of cooperative education students.

Alternating term/semester (full-time) and parallel (part-time) positions are available through the program for undergraduate students who have a 2.5 or higher grade point average and have completed at least 12 hours at UNT. Graduate students must be admitted to a graduate degree program, have a 3.0 or higher GPA and must have completed at least 9 semester hours.

The Cooperative Education and Internships Program facilitates internships. Internships involve only one term/semester of work related to a major. Requirements for internships vary by academic department, and information regarding them is available through Cooperative Education and Internships.

No more than 12 credit hours for bachelor's degree candidates and 6 credit hours for master's degree candidates may be earned through internships or cooperative education courses. Internship or cooperative education credit hours may be applied as part of the major or professional field, as approved supporting courses, as free electives, or as academic credit in addition to degree requirements, as determined by the appropriate academic dean.

The Cooperative Education and Internships Program is accredited by the Accreditation Council for Cooperative Education, Stevens Institute of Technology, Castle Point, Hoboken, NJ, 07030; (201) 216-8228.

For further information, contact Cooperative Education and Internships, Chilton Hall, Room 204.

Counseling and Testing Services

The center provides confidential, professional psychological services to currently enrolled students. Individual counseling related to personal, social and emotional concerns; vocational counseling for help with selection of a major field of study or career plan; educational counseling; and marital and premarital counseling are offered at the center. All individual counseling is limited to eight sessions per academic year. Outreach programs and consultation are available for faculty/staff and student groups.

Group counseling is offered at various times in such areas as improving interpersonal skills, stress management, overcoming eating disorders and coping with sexual abuse, among others.

In addition to the vocational interest, aptitude, personality and other tests used in counseling, the center also serves as a national testing center and computer-based testing site for the GRE, CLEP and TOEFL. Information and application forms for various national tests are available in the center's office.

The center is in the University Union, Suite 231; (940) 565-2741.

For information or to sign up for computer-based testing, call (940) 369-7617 or go by the Gateway Center, Room 140.

Dean of Students

The Dean of Students Office is a resource for UNT undergraduate and graduate students in all programs, schools and colleges. The Dean of Students Office provides a framework for students' successful adjustment to college life, learning, academic success and personal development, consistent with the academic mission of the university. It serves as a liaison for the student body with family, faculty, staff and the local community.

Staff members of this office are available for general counseling or information and assistance with any phase of campus life. In emergency situations (i.e., death in the family) special assistance can be provided to students for either verification or notification of illness, death or other absences or for assistance with medical withdrawals. The Dean of Students Office handles social adjustment problems, and provides self-development opportunities and enrichment activities via a number of sub-units, including the Career Center, the Student Activities Center and Disability Accommodation. For information, call (940) 565-2648 or visit Suite 216 in the University Union.

International Studies and Programs

International Studies and Programs (ISP) assists all students, citizens of the U.S. and of other countries, who wish to include an international experience in their education. ISP assists UNT administration, faculty, colleges and departments in the development and conduct of international education activities and programs on and off campus. ISP also directs and supports activity office constituent units. All units are located in Kendall Hall (e-mail: international@unt.edu; web site: www.international.unt.edu).

The **Intensive English Language Institute** provides English and academic skills instruction to students whose first language is not English. Contact: (940) 565-2003 or international@unt.edu.

The **International Admissions Office** assists students with admissions advising. Contact: (940) 565-2442 or www.international.unt.edu/icli.

The **International Advising** office assists students and scholars with matters related to immigration and maintaining student status. Contact: (940) 565-2195 or visit www.international.unt.edu/immigration.

The **International Welcome Center** is a "home away from home" for international students. It provides orientation programs and campus and community information and activity. Contact: (940) 565-2209 or visit www.international.unt.edu.

The **Sponsored and Special Programs Center** tailors programs for UNT international students sponsored by governments, agencies, businesses or other universities; provides special orientations, personal and academic counseling; and reports academic

progress to sponsors with direct invoicing for tuition and fees. Contact: (940) 565-2196.

The **Study Abroad Center (SAC)** encourages study experience all over the world. It assists faculty, staff and students with exchanges, Fulbright Programs, travel logistics, ID cards and hostel membership. SAC hosts students from other countries on the UNT campus. U.S. students wishing to transfer credits from international institutions should contact the SAC for pre-approval. Contact: (940) 565-2207 or visit www.international.unt.edu/sac.

International Student Health Insurance Policy

It is compulsory for international students on non-immigrant visas to carry medical and hospitalization insurance.

International students are billed for health insurance with tuition and fees unless they have alternate insurance coverage. Waivers of this university-endorsed policy are available in International Programs and Studies, Kendall Hall, Room 151, for UNT students who show proof of comparable alternate insurance coverage. Proof must be presented by deadlines **each term/semester** to avoid automatic billing. For deadlines and details visit international.unt.edu/health/insurance. Coverage must be in effect continuously from the time the student initially enrolls at the University of North Texas through all enrollment periods and vacation periods, including holidays, until final separation from the university.

See also "Health Insurance Program" under "Student Health and Wellness Center."

Student Activities and Organizations

The Student Activities and Organizations office provides organization training and advisement, special events planning, and official registration for all student organizations at the university. For information, call (940) 565-3807.

A wide array of clubs and organizations offer UNT students friendships with people of similar interests and avenues for organized and meaningful service.

Numerous national honor societies offer recognition to the student who exhibits outstanding academic achievements and campus participation. National professional societies and departmental clubs also offer involvement within the academic disciplines.

The campus has an active Greek system of national Greek letter fraternities and sororities that sponsor such activities as Greek Week, social events and fundraising drives for local charities.

Still other clubs offer a chance to join in activities with people of mutual interests.

For a complete list of academic, service and social clubs at UNT, contact Student Activities and Organizations, University Union (940) 565-3877.

Career Center

Within the Career Center, **Student Employment (SE)** assists students in their job search by providing employment opportunities both on and off campus year round. Students who have been accepted to UNT and are currently enrolled or who have been enrolled within the previous year are eligible to access services.

Students may learn about on- and off-campus job opportunities through the Eagle Network at careercenter.unt.edu. Job fairs are conducted in early fall and spring for students seeking off-campus employment. Once a student is hired for an on-campus position, the student is eligible to sign up for customer service training in the C.A.S.A. (Creating a Service Attitude) program.

Students may receive more information or learn how to register with the Eagle Network, Monday through Friday, between 8 a.m. and 5 p.m. in the Career Center office, University Union, Suite 320, or by calling (940) 565-2105.

Career Services (CS) provides the following services to students in all degree programs and at every degree level, undergraduate, master's and doctoral.

In-class presentations and guest lectures are offered on career-related topics (including "Resume Writing," "Job Search Strategies," "Interviewing Skills" and "What Can I Do With a Major In ...").

The Career Research Library has publications, corporate portfolios and computer programs to assist students in identifying and exploring career and employment information (employment outlook, salary surveys and employer contact information). It is open to all students and alumni to use in their job search.

Career planning and job search resources can be found at careercenter.unt.edu. These resources assist students and alumni in assessing their career interests, exploring career options and accessing relevant information for making career-related decisions.

Career advisers assist students and alumni in career exploration and research, resume writing, interview preparations, career transitions and general job search strategies through individual advising.

A web-based career services job listings system (Eagle Network) contains current job vacancy announcements from UNT-friendly employers. Students and alumni must formally register with the Career Center in order to utilize this service.

More than 400 employers come to UNT each year to conduct on-campus employee recruiting. The Career Center links student and alumni job seekers with hiring professionals. More than 100 school districts and more than 300 business, industry, government and public service employers visit campus annually. Registration for on-campus interviewing is required through Eagle Network.

All services and resources the Career Center offers are provided at no cost.

The Career Center is located in the University Union, Suite 320, and available by telephone at (940) 565-2105 and on the web at careercenter.unt.edu.

Student Legal Services

Student Legal Services provides free advice and assistance to currently enrolled students. This office also maintains a variety of legal publications for student use. Students are encouraged to meet with an attorney during walk-in hours. For details, please refer to the web site at www.unt.edu/legal or call (940) 565-2614.

Student Activities Information and Services

Adaptive Computer Lab

Any UNT student, faculty and staff with a valid UNT ID card can use the Adaptive Computer Lab facilities. Students registered with UNT's Office of Disability Accommodation (ODA) have preemptive privileges when the lab is full or when specific adaptive equipment is needed. Students are encouraged to visit the lab early in the term/semester and become familiar with equipment and services. The lab has adaptive consultants on duty 60 hours a week for hands-on help and training.

The Adaptive Computer Laboratory is located in the Science and Technology Library in the Information Sciences Building, Room 110. The Information Sciences Building is in the center of campus next to the Hurley Administration Building and across from the Biology Building. To contact the Adaptive Computer Lab, call (940) 565-3048, TDD Access through Relay Texas: (800) 735-2989, or write to:

Dr. Elizabeth Hinkle-Turner, Manager
Adaptive Computer Lab
Computing Center
University of North Texas
P.O. Box 305398
Denton, TX 76203-5398
E-mail: ehinkle@unt.edu

The lab may be accessed through the Internet (www.unt.edu/ACSGAL/).

Aerie Yearbook

The *Aerie* is the official pictorial history of the university. It is distributed each fall and covers organization events and activities, all athletic programs and university events. For additional information, contact the Aerie Office on level 4 of the University Union, (940) 565-3822 or visit the web site at www.unt.edu/union/aerie.htm.

Athletic Organizations and Activities

Both the Intercollegiate Athletics and Recreational Sports programs at UNT offer a wide range of

opportunities for recreation. Accessible sports facilities include the Student Recreation Center, 12 lighted tennis courts, two swimming pools, four gymnasiums, Fouts Field and the Coliseum. Facilities in the Coliseum include handball and racquetball courts and gymnastics equipment. The Physical Education Building contains handball/racquetball courts.

Center for Continuing Education and Conference Management

The Center for Continuing Education and Conference Management provides the administrative structure for continuing education academic programs and public service to meet professional education and career development requirements of adult groups.

Continuing education programs (conferences, seminars, workshops, etc.) for all of the schools and colleges of the university are coordinated by the center. This assistance includes financial planning in accordance with official university procedures; arrangements for housing, food service, meeting space, transportation and audiovisual equipment; and assistance with preregistration and on-site registration.

Continuing education credit is awarded by the center and these records, which are kept on permanent file, are reported to the Southern Association of Colleges and Schools as an important part of the accreditation process.

Numerous minicourses on general interest topics, GRE/GMAT preparation classes, and extension credit courses are offered throughout the year.

The center is responsible for arranging and scheduling the use of university facilities for all off-campus groups and for faculty and staff groups for purposes other than credit classes.

The Center for Continuing Education and Conference Management is located in Chilton Hall, Room 289. For additional information, call (940) 565-2656, or write to the director, P.O. Box 305344, Denton, TX 76203-5344.

Multicultural Center

The Multicultural Center was established in November 1995 to address the needs of the diverse campus population with the goal that it would be a place where the entire community and region could experience the cultural wealth of the university. Its central purpose is to "teach the culture" by increasing the involvement and knowledge base of all members through communication across cultures and to support and enhance a welcoming environment at the university. Programs and activities sponsored by the Multicultural Center are developed with the intention of increasing the level of awareness, understanding and consciousness regarding the underrepresented culture and history of people of African, Hispanic/Latino,

Asian and Native American descent; however, the overall focus is inclusive.

The Multicultural Center is responsible for planning universitywide activities during Hispanic Heritage Month, Native American Month, Black History Month, Asian History Month, and to assist in the planning of Women's History Month and International Week as well as other cultural programs. In addition to planning cultural programs, the Multicultural Center coordinates the Buddy System Mentoring Program, which pairs incoming students with upperclassmen to assist the new student in adapting to the University of North Texas and offers enhancement and development workshops through the Multicultural Leadership Series.

The Multicultural Center houses the Alton and Renay Scales Ethnic Studies Library, which maintains a collection of works relevant to the experiences of the previously mentioned under-represented ethnic groups. These resources are available to all university students, faculty and staff for research or general information purposes.

The Multicultural Center is located in the University Union, Room 422. For more information on programs and services contact (940) 565-3424.

Center for Media Production (CMP)

The Center for Media Production offers media production services at below market fees to the faculty, staff and students of UNT. These services include web site design, interactive multimedia, CD and DVD development, presentation design, photography, video production and technical services.

CMP is staffed by full-time professional designers and consultants who provide solutions based on each project's requirements and objectives. In addition to professional services, the center has state-of-the-art video and audio recording studios and post-production suites, a fully equipped photography studio and onsite CD/DVD duplication. The center is in Chilton Hall, Room 211; call (940) 565-2180. Visit the CMP web site at www.cmp.unt.edu.

Dining Service

Variety in selections, freedom of choice, an all-you-can-eat policy and cooked-to-order options are features of UNT's residence hall dining service. Students living in residence halls on campus are required to choose a five-day or seven-day meal plan. An open dining policy allows all students and guests access to any dining area continuously from 7 a.m. to 9 p.m. with a grill operation open until midnight.

Students living off campus may purchase full-service meal plans in the Dining Services office at current board rates or choose the 8's Enough meal plan, exclusively for non-resident students. Faculty, staff, students and guests without a meal plan may purchase meals individually with cash.

The Dining Services office is located in Crumley Hall, Room 132. For more information about meal plans please call (940) 565-2462 or visit the web site at www.dining.unt.edu.

Distance Education (Web-Based and Videoconference)

The University of North Texas offers a selection of undergraduate and graduate courses via distance education that are delivered via the web and videoconference. Off-campus videoconference sites are located around the Dallas–Fort Worth region and at a variety of locations across Texas and the United States. Web-based courses can be taken from any location worldwide that has Internet access and the appropriate computer equipment available.

For further information, check out www.UNTeCampus.com.

Distinguished Lecture Series

The UNT Distinguished Lecture Series was organized and chartered as a universitywide program in 2004 with the assistance of the UNT Student Government Association, Provost, Vice President for Student Development and the Office of the President. The series is administered by a committee composed of students, faculty and staff, with a student member serving as chairperson.

The objective of the series is to provide the university and greater communities with a variety of distinguished, world-class lecturers and speakers who will bring significant interest, visibility and added prestige to the University of North Texas. The series is dedicated to complement the educational process and to add significantly to the quality of life for the university community and communities of the Dallas–Fort Worth region.

UNT students are admitted free of charge to series presentations; faculty, staff and senior citizens are admitted at one half of the price for any given series event.

Eagle Ambassadors

UNT Eagle Ambassadors are student recruiters/tour guides with various majors and backgrounds who are interested in promoting the university. In addition to conducting well-organized, friendly tours of the university for prospective students, parents and other visitors, Eagle Ambassadors represent the student body at various events for the President's Office. They also serve as positive role models for prospective students while assisting the Office of Admissions at college nights and at North Texas Preview. The Eagle Ambassadors are responsible for operating the information desk in the Eagle Student Services Center.

The program, started in 1998, offers students an opportunity for personal and professional growth. Following a competitive application and interview

process, Eagle Ambassadors are trained extensively in UNT history and traditions. These students receive a \$1,500 scholarship as well as an hourly wage and are required to maintain a minimum grade point average and full-time student status.

Eagle Leadership Programs

The University of North Texas is committed to the development and success of student leaders. Throughout leadership programs we provide an educational and practical foundation to enable students to assume leadership roles both during and after their college careers. Eagle Leadership Programs offer many different leadership opportunities for students. The North Texas Leadership Conference is open to any UNT student who wants to be empowered with the leadership skills necessary to begin and continue involvement in leadership positions on campus and in the workforce. The E.A.G.L.E. Transcript (Evidence of Achievement Guided by Leadership Experience) is a verified record of involvement on campus and in the community. This profile will be provided to UNT students for job applications, scholarships and various other applications. Eagle Leadership Programs also participates in The Leadership Consortium of North Texas Colleges and Universities, a multi-institutional organization that provides opportunities to collaborate with other area leadership development programs. Finally, there are several workshops offered throughout the term/semester for students to strengthen different leadership abilities. For more information about Eagle Leadership Programs, stop by our office, located in the University Union, Suite 324, or call (940) 891-6770.

EagleMail

UNT has designated e-mail as an official form of communication between the university and students. UNT provides e-mail accounts, accessible at eaglemail.unt.edu, to all students registered at the university with no special fee imposed for those accounts. Students are automatically assigned e-mail accounts and are given computer storage for a reasonable volume of mail. **Students are responsible for reading their e-mail frequently enough to receive important communications from the university.**

Facilities Use Policy

The term *facilities* describes all structures on the campus or otherwise under the control of the university. Use of such facilities is governed by the university's "Facilities Use" policy and "Off-Campus Speakers" policy. Requests may be made through the Facilities Scheduling Office, Center for Continuing Education and Conference Management at (940) 565-2600.

Student organizations wishing to reserve facilities should contact the Student Activities Center, University Union, level 2, or call (940) 565-3807.

Facilities Scheduling

The Facilities Scheduling Office handles reservations for public-use facilities on campus for faculty and staff organizations as well as for off-campus groups wishing to use university facilities. The office is in the Gateway Center, Suite 149.

Fine Arts Series

The UNT Fine Arts Series had its origin as the Lyceum Series in 1924 during the Normal College era. The series has continued for 102 consecutive seasons to provide a wide variety of the visual, performing and literary arts for the university and communities in the greater Dallas-Fort Worth region. Coordinated by a committee composed of faculty, staff and students, the Fine Arts Series provides students with leadership opportunities, arts management skills, participation in the selection of artists and their works, and evaluation skills to discern among various artists.

UNT students may receive free tickets to performances by presenting a current UNT ID to the ticket seller. Faculty and staff are admitted at a discounted price. For more information, call (940) 565-3805 or visit www.unt.edu/fas.

Gateway Center

The Gateway Center is a multipurpose facility housing class and conference rooms, a banquet facility, the Club at Gateway Center (formerly the Club at College Inn), and offices for the UNT System Chancellor and his staff, the Office of Development, the North Texas Exes, the UNT Foundation, Inc., and the Center for Continuing Education and Conference Management. For scheduling, reservations and pricing, call Verde! at (940) 565-3806.

Graduate Student Council

The Graduate Student Council was established in 1968 to assure formal avenues of communication between representatives of the graduate student body and both the dean of the Toulouse School of Graduate Studies and the University Graduate Council. It serves as an advisory council to facilitate an interchange of views and information between these groups. Two members of the Graduate Student Council are elected annually to serve as voting members of the University Graduate Council. Graduate Student Council members also serve on other graduate council and universitywide committees. The president of the council can be reached by contacting the Toulouse School of Graduate Studies.

Health Insurance Program

A group student health insurance plan is offered for students enrolled at UNT. Application forms are available in the Health and Wellness Center. It is compulsory for international students on non-immigrant visas to carry medical and hospitalization insurance.

International students are billed with tuition and fees unless they have alternate insurance coverage. Waivers of this university-endorsed policy are available in International Programs and Studies, Kendall Hall, Room 151, for UNT students who show proof of comparable alternate insurance coverage. Proof must be presented by deadlines *each term/semester* to avoid automatic billing. For deadlines and details visit international.unt.edu/health/insurance.html.

New and continuing international students eligible for UNT employee insurance must go to Human Resources to enroll. Human Resources will provide the employee with a verification form that will indicate the employee's enrollment status. Students must bring the form to Kendall Hall, Room 151, complete a waiver form, and attach it to the Human Resources form. If the student is not enrolled, or is in a 90-day waiting period, the student will need to purchase personal medical insurance coverage.

Living Accommodations

Graduate men and women may live in university-owned residence halls or in off-campus housing.

College Inn, Santa Fe Square and Mozart Square are targeted for upper-class housing, although this is not guaranteed. Graduate students may select a no-meal plan option. More information regarding university-owned residence halls may be obtained by writing to the Housing Department, University of North Texas, P.O. Box 311310, Denton, TX 76203-1310, or calling (940) 565-2610.

Off-Campus Housing. Students who are not required to live in university housing under the terms of the housing policy may live where they choose. The university does not assume any responsibility in off-campus housing arrangements but does support the federal housing policies that housing owners not discriminate because of race, color, sex, age, disability, veteran status or national origin.

The Student Association publishes an apartment evaluation survey that is available in their office on level 4 of the University Union.

North Texas Exes (Alumni Association)

The North Texas Exes Alumni Association is dedicated to **promoting** the University of North Texas by **connecting** with alumni, friends and current students through programs, scholarships and activities that create awareness and loyalty, and to **supporting** the ideals of the university. For more information, call (940) 565-2834 or e-mail alumni@unt.edu. Visit the Alumni Center or online at www.ntexes.org.

Office of Disability Accommodation

An equal opportunity institution, the University of North Texas complies with the Americans with Disabilities Act of 1990 and Section 504 of the 1973 Rehabilitation Act in making reasonable adjustments

in its policies for qualified students with disabilities who wish to participate in its education programs. The Office of Disability Accommodation provides certain educational auxiliary aids for eligible students who request reasonable accommodations. Students requesting accommodations due to disability should notify the Office of Disability Accommodation at least 30 days prior to the beginning of the term/semester of enrollment.

For more information, contact the Office of Disability Accommodation, University Union, Room 322; (940) 565-4323; TDD access: (940) 565-2958 or (940) 369-8652.

Organizations Policy

The University of North Texas recognizes the right of any group of students, faculty or staff to form a voluntary organization for purposes not forbidden by the laws of the United States or the State of Texas or university policy. All organizations that include enrolled students as members must register each long term/semester with the Student Activities and Organizations office.

Policies regulating the organization, functioning, sponsorship and privileges of registered or recognized organizations are available from Student Activities and Organizations in Suite 216I of the University Union (940) 565-3807.

Parking

Parking regulations and maps detailing parking facilities may be obtained online at www.unt.edu/parking. Commuter parking permits are sold only at the UNT Bookstore beginning one week prior to the first class day and throughout the first week of classes. These permits are sold the remainder of the term/semester at the Parking Office in the Sullivant Public Safety Center at 1700 Wilshire. Residence hall parking permits must be ordered (and may be paid for through the Housing web site as part of the housing enrollment process at <https://housing.unt.edu/Login.asp>).

Religious Activities and Organizations

Campus ministries and student centers sponsored by different denominations and the churches of Denton, as well as campus religious organizations, offer opportunities for personal counseling and for social and spiritual involvement.

A list of campus religious organizations is available in the Student Activities and Organizations office, University Union, or call (940) 565-3807.

Speech and Hearing Center

The University of North Texas Speech and Hearing Center offers diagnostic and remediation services for adults and children presenting communication disorders. Specific services provided include audiological tests, hearing aid evaluations, aural rehabilitation

programs as well as evaluations and therapy programs for articulation, language, voice and fluency disorders.

The Speech and Hearing Center is located at 907 West Sycamore. Services are free to enrolled students. Fees for services are charged to all others based on a sliding scale according to gross income and number of dependents. Persons interested in an appointment should call (940) 565-2262.

Student Government Association

The Student Government Association (SGA) strives to promote the interests and opinions of the student body. As the official voice of the student body, SGA represents the student body in matters of policy and student welfare. SGA sponsors programs and projects that enhance students' educational experiences.

SGA is responsible for many services to students, such as apartment guides, metro-phone service, homecoming/spring elections and the Eagle Calls Student/Faculty/Staff Directory. Students may also benefit from Eagle's Nest Inter-organizational Council membership, Freshmen Interns Program and Raupe Scholarships.

Students interested in becoming a member of SGA may call (940) 565-3850; visit the SGA office located in the University Union, Student Life Suite 216B; or visit the SGA web site at www.unt.edu/sga.

Student Health and Wellness Center

The Student Health and Wellness Center is equipped with examination and treatment rooms, a clinical laboratory, pharmacy and x-ray. Medical services are available when school is in session to enrolled students paying the medical service fee. No medical care is available between terms/semesters or on official university holidays. For a major emergency, call 911. The Student Health and Wellness Center operates on an appointment system. Call (940) 565-2333 to make an appointment.

Clinic hours of operation: fall and spring terms/semesters — Monday through Thursday, 8 a.m. to 6 p.m.; Friday, 9 a.m. to 6 p.m.; Saturday, 9 a.m. to 1 p.m.; Pharmacy hours: Monday through Friday, 9 a.m. to 6 p.m.; Saturdays, 9 a.m. to 1 p.m.; summer clinic hours — Monday through Friday, 8 a.m. to 5 p.m.; summer pharmacy hours, Monday through Friday, 9 a.m. to 5 p.m.

The health and wellness center professional staff includes licensed physicians, certified nurse practitioners and nurses; certified lab technologists; certified medical radiological technologists; registered pharmacists; certified health educators; and administrative, business and medical records personnel. Also available are psychiatrists, an allergist, a registered dietitian and a registered massage therapist.

The student medical use fee allows students to access physicians, nurse practitioners and nurses.

Charges are assessed for ancillary services, special supplies and treatments, and specialty provider visits. The student may pay with cash, check, or credit card, or make billing arrangement. Statements will be sent to the parent with the student's written permission.

Other than for the student health insurance program mentioned below, the Health and Wellness Center does not file insurance claims. Patients receive information at the time of service to file with their insurance carrier. The Health and Wellness Center is not a provider on the university employee health insurance plan.

Medical information is confidential and is not released to others without a release signed by the patient. If a parent requests information for a minor, the Health and Wellness Center is obligated to provide the information.

A pharmacy is located inside the Health and Wellness Center. Prescriptions from private physicians can be filled at the pharmacy. The pharmacy accepts some PCS and some Blue Cross/Blue Shield of Texas Prescription Drug Cards with co-payment.

The Wellness Resource Service Center provides individual health education, outreach programs, and drug and alcohol education and referral to students, campus groups and special programs for specific health needs. Contact the Wellness Resource Service director at (940) 565-2787 for a complete list of offerings.

A licensed nurse administers allergy injections. Patients must bring their antigen and current orders (date cannot exceed one year) from their allergist. For more information, obtain a current "Allergy Policy" from the Student Health and Wellness Center.

The Student Health and Wellness Center recommends that all students have current immunizations for diphtheria, tetanus, rubella, mumps, measles, and hepatitis B. It is also recommended that you consider receiving the bacterial meningitis vaccination.

Students who have their medical fees waived must pay a user fee each term/semester to be eligible for Health and Wellness Center services.

Health Insurance Program

A group student health insurance plan is offered for students enrolled at UNT. Application forms are available in the Health and Wellness Center. It is compulsory for international students on non-immigrant visas to carry medical and hospitalization insurance. International students are billed with tuition and fees unless they have alternate insurance coverage. Waivers of this university-endorsed policy are available in International Programs and Studies, Kendall Hall, Room 151, for UNT students who show proof of comparable alternate insurance coverage. Proof must be presented by deadlines each term/semester to avoid automatic billing. For deadlines and details visit international.unt.edu/health/insurance.html.

New and continuing international students eligible for UNT employee insurance must go to Human Resources to enroll. Human Resources will provide the employee with a verification form that will indicate the employee's enrollment status. Students must bring the form to Kendall Hall, Room 151, complete a waiver form, and attach it to the Human Resources form. If the student is not enrolled, or is in a 90-day waiting period, the student will need to purchase personal medical insurance coverage.

Student Recreation Center

The Student Recreation Center provides facilities for recreational and fitness activities, including a weight room, a climbing wall, an indoor track for walking and jogging, an aquatic area, four gymnasiums and an outdoor pursuits center. The aquatic area includes a lap pool, a spa and a leisure pool (with warmer water than in the lap pool, a vortex, a water channel, underwater seating, a water fountain, benches, zero beach entry, spray tunnel and water curtains, and hydraulic lifts for handicap access). The gymnasium houses four multi-purpose courts for basketball, volleyball and badminton, with one multi-purpose court featuring an indoor soccer arena. The outdoor pursuits center provides outdoor equipment rental and sponsors outdoor adventure trips and clinics.

Also located in the recreation center are locker rooms, the Sidelines Deli (serving snacks, smoothies, sandwiches and beverages), lounge and seating areas, meeting rooms, two aerobic rooms, and lighted outdoor sand volleyball and basketball courts, and the Recreational Sports offices.

Open all day for recreation and fitness opportunities, the Rec Center offers classes in a variety of activities.

The Rec Center is a result of a project initiated by a UNT student group in 1997, which gained momentum through student involvement and was approved through a student referendum in 2000. The Rec Center is funded primarily through the Student Recreation Fee.

For more information regarding Student Recreation Center programs and facilities, contact Recreational Sports in the Physical Education Building, Room 103 or call (940) 565-2275. Information is also available through the Recreational Sports web site at www.unt.edu/recsports.

Recreational Sports

The university offers extensive intramural, sport clubs, open recreation and recreational instruction programs to provide students with recreational and competitive opportunities. Any student who pays the rec fee may participate in intramurals through one of three divisions that have men's, women's and co-recreational teams: residence hall, Greek or independent. Team sports are arranged on a round-robin basis, and individual and dual sports are set up by elimination tournaments, meets and special events.

The sport club program provides an opportunity for UNT students to compete against other colleges and universities in the Texas area. The clubs include Aikido, badminton, baseball, billiards, chess, cricket, cycling, fencing, Go, gamers, in-line hockey, ultimate disc, men's lacrosse, men's rugby, men's soccer, multi-sport, sailing, men's ultimate disc, wake, women's lacrosse, and women's ultimate disc.

The group exercise program offers students exciting aerobic activities for a small fee. Step aerobics, body sculpting, water aerobics, kickboxing, cardio kickboxing, mat Pilates, yoga and other classes provide the student with a variety of programs from which to choose. Free classes are offered, and others require the purchase of a pass.

The outdoor program offers a 45-foot climbing wall, 10-foot bouldering wall, rental of outdoor equipment, outdoor trips, clinics and workshops.

The aquatics program offers classes such as learn to swim, master swim, life guarding and more.

The fitness program offers fitness assessment, personal training and other classes.

The informal recreation program in the Student Recreation center is open to all currently enrolled UNT students with a valid UNT ID card who pay the recreational facility fee. Current and retired faculty, staff and their families may purchase memberships. Memberships are also available to alumni. Members can sponsor up to two guests per day for a fee. Informal recreation offers drop-in activity in basketball, indoor soccer, handball, racquetball, swimming, badminton, volleyball and more.

A 14,500 square foot weight room is also located in the Rec Center and offers Stairmaster™, treadmills, selectorized weight machines, elliptical machines, free weights and exercise bikes.

For information concerning hours of operation, call the Member Services Desk at (940) 369-8347, the Recreational Sports Office at (940) 565-2275, the 24-hour information line at (940) 369-7100 or visit the web at www.unt.edu/recsports.

University Police, Parking and Transportation

The University Police are primarily concerned with the safety of all members of the university community and the protection of state and personal property.

Located at 1700 Wilshire in the Sullivant Public Safety Center, the department operates 24 hours a day. University Police officers are licensed by the State of Texas, and they are empowered with the same authority as municipal police officers. The University Police shares an area of jurisdiction with the City of Denton Police Department and is responsible for the enforcement of state and local laws, as well as university rules and regulations. It offers services such as crime prevention programs, criminal investigation, escort services, shuttle bus transportation, and parking and visitor information. Additionally, 41 emergency

phones are located throughout campus, allowing immediate communication with the University Police.

For more information, contact the University Police at (940) 565-3000, or P.O. Box 310948, Denton, TX 76203-0948.

University Program Council

The University Program Council (UPC) offers a co-curricular learning experience through involvement in student programming committees. UPC programs outdoor recreation and off-campus travel, concerts, dances and traditional events, arts and lectures, promotion and other special events for the UNT campus and Denton community. UPC is part of the University Union and is funded in part by the union fee paid by students. UPC welcomes members for their suggestions and ideas. Committee membership is open to any interested student. The UPC Office is located on level 4 of the University Union. Call (940) 565-3825 for information or visit www.unt.edu/union/upc_main.htm.

University Union

The University Union is the community center for the campus. The Union provides services and programs that members of the campus community need in their daily lives and creates an environment for getting to know and understand others through formal and informal associations.

A 500-seat theater, meeting and banquet facilities are available to campus or community groups.

A food court, complete with an outside terrace seating area, provides a variety of menu offerings. The Corner Store has a large selection of grab-and-go items, a smoothie bar and a Sub Connection sandwich shop. Jazzman's is a gourmet coffee bar featuring Seattle's Best coffee along with muffins, scones and breakfast items. Both areas are on level 2.

Avesta provides a casual dining atmosphere with gourmet cuisine for lunch, Monday through Friday.

The Union also offers a games and recreation center, TV viewing, graphics and reproduction center, a copy center and a variety of entertainment at almost any time of the day. ATMs and public fax services are also available. At the Information Center, level 3, check cashing, discount tickets to local attractions, lost and found, and updates on programs are available.

Also housed in the Union are Student Activities and Organizations, Student Association, banking services, Office of Disability Accommodations, UNT Bookstore, the Career Center, Counseling and Testing, Dean of Students, U.S. Post Office, Multicultural Center, Student Volunteer Center, and the Women's Center.

For further information contact the Union at (940) 565-3805 [TDD (800) 735-2989] or visit www.unt.edu/union. Contact Union Scheduling Services for catering, event planning and facility use at (940) 565-3804 or visit the web site at www.unt.edu/union.

University Writing Lab

The University Writing Lab provides free tutoring and workshops for students from the freshman through the graduate levels. Individualized and group work in such areas as punctuation, grammar, sentence structure and essay writing is provided by experienced tutors five days a week for 13 weeks during each long term. The lab is open Monday–Thursday, 10 a.m.–6 p.m. during the summer term.

Students may also access tutors through the UNT Writing Lab web site. Visit www.unt.edu/writinglab. Tutors will respond within 24 hours to any questions students submit. The web site also contains exercises, diagnostic exams, a peer review video, an interactive calendar of events, a discussion board and other helpful materials. The primary purpose of the Writing Lab is to promote more and better-written composition by students at all levels. Students are encouraged to visit the Writing Lab, in the Auditorium Building, Room 105, to discuss their writing issues.

UNT Graduate Teaching Assistant and Teaching Fellow Orientation

At the beginning of the fall and spring terms/semesters, the Robert B. Toulouse School of Graduate Studies holds an orientation for all new teaching assistants (TAs) and teaching fellows (TFs). The TA/TF Orientation instructs new TAs and TFs in university policies that affect their employment and provides training pertinent to teaching and classroom management. The Council of Deans and the Provost require all new TAs and TFs to attend the orientation program.

Volunteer Center

The Volunteer Center offers programs and services designed to provide a link between those who want to serve and those who need assistance. A collaborative effort between the Dean of Students Office and the College of Public Affairs and Community Service, the center serves as a clearing housing and information resource to potential volunteers as well as agencies, organizations and campus departments that need volunteers. The Volunteer Center is located in the University Union, Suite 430. For more information call (940) 565-3527.

Women's Center

The Women's Center offers programs, services and resources that enlighten, support and enhance the university community and serves as a central coordinating agency for campus and community organizations. The center also offers activities in observance of national projects such as Women's History Month, a self defense course for women, as well as various support groups and childcare information. The center provides opportunities to the university that promote a broader understanding of the diverse experiences of women. The Women's Center is located in the University Union, Suite 216I. Call (940) 565-3527 for information.

Academic

The general policies of the Toulouse School of Graduate Studies are determined by the Graduate Council and administered by the dean.

Standards, fees and other requirements may be modified at any time by the Graduate Council.

Academic Misconduct

Cheating and plagiarism are types of academic misconduct for which penalties are described and assessed under the UNT “Code of Student Conduct and Discipline,” which is published in the *Undergraduate Catalog* and also is available on the UNT web site at www.unt.edu/csrr as part of the *Student Handbook*. The following statement on academic misconduct, adopted by the Graduate Council, is based on the “Code of Student Conduct and Discipline.”

The term “cheating” includes, but is not limited to, (1) use of any unauthorized assistance in taking quizzes, tests or examinations; (2) dependence upon the aid of sources specifically prohibited by the instructor in writing papers, preparing reports, solving problems or carrying out other assignments; (3) the acquisition, without permission, of tests or other academic material belonging to a faculty or staff member of the university; (4) dual submission of a paper or project, or resubmission of a paper or project to a different class without express permission from the instructor(s); (5) any other act designed to give a student an unfair advantage.

The term “plagiarism” includes, but is not limited to, the use, by paraphrase or direct quotation, of the published or unpublished work of another person without full and clear acknowledgment. Plagiarism also includes the unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials.

Specific penalties can be assigned by a faculty member for certain cases of academic misconduct (including cheating and plagiarism). These penalties include: giving a failing grade for the test or assignment; reducing or changing the grade for the test, assignment or course; requiring additional academic work not required of other students; assigning a failing grade in the course. Other specific penalties can be recommended by a faculty member to the appropriate administrative/academic authority, including denying of the degree, expulsion from the university or revocation of a degree already granted.

All graduate students are responsible for making themselves aware of the definitions and implications of academic misconduct. For further information on academic misconduct, penalties and appeal procedures, the student should refer to the “Code of Student Conduct and Discipline.”

Appeal Processes

Students who believe they have not been fairly treated in any aspect of their graduate program have the right of appeal. Grade appeals should be initiated through the instructor. Appeals concerning extension of time to complete a degree should be initiated through the student’s major department. Appeals concerning admission to the Toulouse School of Graduate Studies are initiated through the office of the graduate dean. Appeals concerning admission to a particular degree program should be initiated through the student’s major department. Appeals regarding specific requirements to complete a degree should be initiated through the student’s major department. All other appeals should be initiated through the office of the graduate dean.

The following process applies to grade appeals. Admission decision time extension appeals will be handled in a different manner. Information about these processes should be sought from either the student’s department or the office of the graduate dean.

Grade Appeal Process

1. Any graduate student who believes a grade has been inequitably awarded should first contact the instructor who awarded the grade to discuss the issue and attempt to resolve the differences. Any instructor no longer associated with UNT at the time of the appeal will be represented in these proceedings by the chair of the department in question. In schools and colleges not organized into departments, the dean, or his designated representative, will act as chair. A student not in residence the term/semester following the awarding of the grade or a student who is unable to resolve the differences with the instructor has 30 days following the first class day of the succeeding term/semester to file a written appeal with the chair of the instructor’s department, or of the equivalent administrative unit.
2. The chair may follow any of the four procedures below, or a combination of them.
 - a. The chair may confer with the instructor.
 - b. The chair may request that the instructor submit a written reply to the student’s complaint.
 - c. The chair may conduct a meeting of the two parties.
 - d. The chair may refer the case directly to the appropriate departmental committee, as outlined below.
3. The appropriate departmental committee to hear cases sent directly to it by the chair or appealed to it by

either the student or the instructor shall be constituted as follows and shall perform the following duties.

- a. It shall be an *ad hoc* committee consisting of three faculty members. Two of the members will be chosen from the department in which the grade is being questioned, one by the student and the other by the instructor. If either party to the dispute declines to choose a member of the committee, the department chair will select that member. The third faculty member of the committee, who shall serve as chair, will be chosen either from within or without the department by agreement of the student and the instructor. If they cannot agree upon a third member, the member shall be chosen by the chair of the department, with the provision that the student and the instructor may agree to stipulate that the third member of the committee be chosen from a related department rather than from the department in question.
 - b. This *ad hoc* committee should require written statements from each participant in the dispute. Judgments may be rendered upon the basis of these statements, upon other evidence submitted in support of the statements and upon the basis of an oral hearing, if such a hearing seems necessary.
 - c. The committee must make a recommendation for disposition of the case within 30 days of its appointment.
 - d. All records in the case will be filed with the chair of the department in which the grade was originally awarded.
4. Either party to the dispute has 15 days following the rendering of the *ad hoc* committee recommendation to appeal that recommendation to the dean of the graduate school, if the appeal is based solely upon alleged violations of established procedures. Substantive matters, up to and including the refusal of the instructor to act in accordance with the *ad hoc* committee's recommendation or the student's refusal to accept the verdict, may not be appealed to the graduate dean.
 5. The dean of the graduate school shall, after a review of the submitted written materials (and oral hearings if desired), make within 15 days a ruling about procedural questions. The ruling may be appealed by either the student or the instructor to an *ad hoc* committee composed of three faculty members appointed by the dean and representing departments other than the one in which the disputed grade was awarded and three students appointed by the Committee on Committees of the Student Government Association.
 - a. The *ad hoc* committee will have 30 days from the date of its appointment to complete its work.
 - b. The committee shall operate within the guidelines set out for departmental *ad hoc* committees in 3b above.

- c. All rulings made by this committee regarding procedural questions shall be final.
- d. All documents related to the case shall be returned to the chair of the originating department for departmental files.

General Policies

Changes of Address

It is the responsibility of the student to provide correct permanent and local mailing address information at all times and on all documents at the university. Failure to do so constitutes a breach of the Student Code of Conduct. Students who change their mailing address must notify the Registrar's Office by calling (940) 565-2111 or update their address at my.unt.edu.

Identification Card Regulations

The identification card is distributed during registration after all fees have been paid. The card entitles the bearer to student admission to athletic events, University Program Council entertainment, Fine Arts Series programs, dances, movies, general access computer laboratories and the University Health Center. It provides identification at the libraries for checking out materials, at the University Union for check cashing and at Recreational Sports and the UNT Health Center for use of these facilities. The ID card also serves as the meal card for those students with meal plans. As the student's official university identification, it must be presented to any UNT official upon request. Each enrolled UNT student with a valid ID card is eligible to receive one complimentary catalog per year beginning July 1.

Lost ID cards may be replaced for a \$10 charge in the ID Systems Office of Student Accounting and University Cashiering Services located in the Eagle Student Services Center, first floor. Misplaced ID cards that have been turned in are held in the ID Systems Office located in Stovall Hall. Students are asked to retain their ID cards, even though they may not be enrolled. The cards are reactivated upon subsequent enrollment.

Fraudulent use of the ID card subjects the user to a fine of \$2,000 and up to one year in jail (Class A Misdemeanor). Anyone who uses the ID card to give false information to a police officer is subject to a fine of \$200 (Class C Misdemeanor).

Liability for Personal Loss

The university is not responsible for and does not assume any liability for loss of or damage to personal property, including damage to vehicles. Students are encouraged to obtain personal insurance coverage for loss or damage to possessions on campus, including possessions in dormitories and vehicles.

Motor Vehicle Regulations

Persons who operate motor vehicles and bicycles on the UNT campus must comply with the Texas Uniform Traffic Code and the published university regulations regarding vehicle and bicycle use, parking, display of decals and penalties for violation. The regulations are available online at www.unt.edu/parking/regs.html.

Severe Weather Dismissals

Weather conditions may temporarily disrupt university operations. The university policy regarding severe weather disruption pertains to all university classes, in Denton, in the Dallas–Fort Worth area and at the UNT Dallas Campus (UNT System Center at Dallas) unless exceptions are noted specifically in the news media announcements.

Courses taught online via Web CT are unaffected by severe weather closings unless instructors inform students otherwise. Those students should continue course work as regularly scheduled.

The Presidents of UNT and the UNT Health Science Center–Fort Worth, and the Director of the Universities Center at Dallas will issue appropriate policy guidance for those institutions. The current policy may be found in the *Schedule of Classes*.

Closings due to severe weather are posted on the UNT web site at www.unt.edu

Student Handbook

Policies and regulations governing students are explained or recorded in full in the *Student Handbook*, available on the university's web site (www.unt.edu/csrr). The handbook also deals with other applicable state, local and university policies, student services and programs. The student is responsible for knowing and abiding by these policies.

Summons

The university may issue a summons when a student's conduct or behavior is reasonably believed to be in violation of a published policy or regulation, a summons may be issued. A summons is an official request that the student appear before a university administrator. A student who receives a summons should always consider it important and should respond immediately. Failure to answer a summons can result in disciplinary action up to and including administrative withdrawal from the university.

Transportation Services

Transportation Services operates the e-trans shuttle, which is funded by a transportation fee. E-trans currently serves the main campus, the research park, Eagle Point, Mean Green Village and student-oriented apartments Monday–Friday, 7:15 a.m. – 10:30 p.m. Night service operates Sunday–Thursday until 2:30 a.m. Limited service is also provided on weekends.

Students can access local bus service operated by the Denton County Transit Authority by showing a valid UNT ID.

The department also offers a rideshare service powered by AlterNetRides. Please visit the web site at www.unt.edu/etrans for more information.

Other Policies in Print

Additional policies and guidelines pertaining to particular subjects or for specific publics are listed in other publications, such as the *ABCs of Residence Hall Living*, available in the Housing and Residence Life Office; *Parking Regulations*, available from the Parking Office and the UNT Bookstore in the University Union; *The Financial Connection*, available in the Student Financial Aid and Scholarships, etc. International students should consult the International Admissions and Advising Center for information regarding policies and procedures required by federal regulation agencies.

Tuition and fees information is available online at ess.unt.edu/saucs.

Other policies may be found in the “Code of Student Conduct and Discipline,” which is published in the *Undergraduate Catalog*. The code is also available on the UNT web site (www.unt.edu/csrr) as part of the *Student Handbook*.

All university policies are subject to change throughout the year.

Contacts at UNT

General University Number

Switchboard (940) 565-2000

University Metro Number

Switchboard (940) 267-3731

General University Internet Address

www.unt.edu

Online Catalogs, Schedules of Classes and Academic Calendar

www.unt.edu/catsched

Web Registration

my.unt.edu

Campus Tour Information

(940) 565-4104

Web site: www.unt.edu/ambassadors/tours.htm

Virtual tour: www.unt.edu/virtualtour

Office of Admissions (Undergraduate)

Eagle Student Services Center, Room 305

P.O. Box 311277

Denton, TX 76203-1277

(940) 565-2681

(800) UNT-8211 (868-8211)

Fax: (940) 565-2408

E-mail: undergrad@unt.edu

Admission information, applications and status reports for new undergraduate students (U.S. citizens and permanent resident aliens).

Toulouse School of Graduate Studies

Graduate Admissions and Graduate Student Services

Eagle Student Services Center, Room 354

P.O. Box 305459

Denton, TX 76203-5459

(940) 565-2636

(888) UNT-GRAD (868-4723)

Fax: (940) 565-2141

E-mail: gradschool@unt.edu

Web site: www.gradschool.unt.edu

Admission information, application and status for new and former graduate students (U.S. citizens and permanent resident aliens).

Office of the Graduate Dean

Eagle Student Services Center, Room 354

P.O. Box 305459

Denton, TX 76203-5459

(940) 565-2383

Fax: (940) 565-2141

Information regarding graduate admission, general policies, regulations and degree requirements; GRE and GMAT score recording; final approval of graduate degree plans.

General Offices

The Career Center

University Union, Suite 320

P.O. Box 310859

Denton, TX 76203-0859

(940) 565-2105

Fax: (940) 565-4376

Web site: www.careercenter.unt.edu

Student Employment: Part-time employment listings for on and off campus; job fairs and camp days; customer service training; supervisor conflict assistance.

Career Services: Career and job search resources; job announcements; Internet Career Guide and job listings; transmission of online files to potential employers; job search advising; on-campus interviews with employer representatives.

Cooperative Education and Internships

Chilton Hall, Room 204

P.O. Box 311305

Denton, TX 76203-1305

(940) 565-2861

Fax: (940) 565-4995

Web site: www.unt.edu/coop

Student placement in supervised work situations related to fields of study.

Counseling and Testing Services

University Union, Suite 321

P.O. Box 310968

Denton, TX 76203-0968

(940) 565-2741

Computer Based Testing

Gateway Center, Room 140

(940) 369-7617

Individual and group counseling for career, emotional and personal concerns; interest, aptitude and personality testing; computer-based testing site for GRE, CLEP and TOEFL; plus information and applications for most national admissions tests.

Dean of Students Office

University Union, Suite 216

P.O. Box 305069

Denton, TX 76203-5069

(940) 565-2648

Web site: www.unt.edu/dos

General information non-academic and personal assistance; policy interpretation; social adjustment problems; assistance for Greek Life, Traditions, commuter and non-traditional student services activities; registered organizations information, women's center, volunteer center and disability accommodation.

Office of Disability Accommodation

University Union, Suite 322
 P.O. Box 310770
 Denton, TX 76203-0770
 (940) 565-4323, TDD access: (940) 565-2958

Assistance with provision of auxiliary academic aids for students who request reasonable accommodations under the Americans with Disabilities Act (ADA) and Rehabilitation Act of 1973.

Division of Equity and Diversity

Hurley Administration Building, Room 175
 P.O. Box 310937
 Denton, TX 76203-0937
 (940) 565-2456
 Fax: (940) 369-7577

The Division of Equity and Diversity is committed to executing the mission of the university as it relates to the recruitment and retention of faculty, staff and students. The primary goal of the division is to develop a supportive environment for a culturally diverse faculty, staff and student body. The Division of Equity and Diversity consists of three units: Diversity Education, Center for Outreach and Community Involvement and Multicultural Center (University Union, Room 422), all working together to provide a safe place for all.

Housing Office

Crumley Hall, West Wing
 P.O. Box 311310
 Denton, TX 76203-1310
 (940) 565-2610
 Fax: (940) 369-8764
 Web site: www.unt.edu/housing

Residence hall contracts, payments, room assignments and problems; residence hall disciplinary action and appeals.

International Studies and Programs

Kendall Hall, Room 151
 P.O. Box 311067
 Denton, TX 76203-1067
 (940) 565-2197
 Fax: (940) 565-4822
 E-mail: international@unt.edu
 Web site: www.international.unt.edu

*Encourages UNT students and faculty in international exchange. Provides services to all students, citizens of the U.S. and of other countries, who wish to include an international experience in their education; assists UNT administration, faculty, colleges and departments in the developments and conduct of international education activities and programs on and off campus; directs and supports activity of six constituent units: **Intensive English Language Institute, International Admissions, International Advising, International Welcome Center, Sponsored and Special Programs Center, and Study Abroad Center.***

Intensive English Language Institute

Kendall Hall, Room 259
 P.O. Box 311067
 Denton, TX 76203-1067
 (940) 565-2003
 Web site: www.international.unt.edu/iel

Provides English instruction to students whose first language is not English; beginning to advanced levels; small classes focus on writing and communication skills, academic skills, research methods and western style critical thinking modes. Practical, efficient and up-to-date instruction is enhanced with specialized instructional ESL computer lab, tutoring and training for Teaching Assistants.

International Admissions

Kendall Hall, Rooms 173
 P.O. Box 311067
 Denton, TX 76203-1067
 Admissions: (940) 565-2442
 Fax: (940) 565-4822
 E-mail: international@unt.edu

The admissions office provides application, admission and status information to new and former undergraduate, graduate and Intensive English Language Institute students.

International Advising

Kendall Hall, Rooms 171
 P.O. Box 311067
 Denton, TX 76203-1067
 Immigration: (940) 565-2195
 Fax: (940) 565-4822
 Web site: www.international.unt.edu/immigration

The advising office provides immigration information to new and former undergraduate, graduate and Intensive English Language Institute students.

International Welcome Center

Kendall Hall, Room 103
 P.O. Box 311067
 Denton, TX 76203-1067
 (940) 369-8625
 Fax: (940) 565-4822

Provides campus, community and general information, personal assistance, non-academic counseling and support for student activities to all new and continuing international students, scholars, and alumni; continuing orientation programs, activities, Celebration of World Cultures.

Sponsored and Special Programs Center

Kendall Hall, Room 230
P.O. Box 305430
Denton, TX 76203-5430
(940) 565-2196

Tailors programs for UNT and IELI international students sponsored by governments, agencies, businesses, other universities; provides special orientations; personal and academic counseling; reports academic progress to sponsors; provides direct invoicing for tuition/fees.

Registrar's Office

Eagle Student Services Center, Room 147 and 209
P.O. Box 311400
Denton, TX 76203-1400
(940) 565-2111
Fax: (940) 565-4463
Web site: essc.unt.edu/registrar

*Registration; transcripts; grade reports; academic status information; residency determination for **continuing** and **former** students; military waivers; enrollment verification/certification; services for veterans; notary service; and athletic eligibility and graduation.*

Student Accounting and University Cashiering Services

Eagle Student Services Center, Room 105
P.O. Box 310620
Denton, TX 76203-1242
(940) 565-3225
Fax: (940) 565-3877
E-mail: studentacct@unt.edu
Web site: essc.unt.edu/saucs

Payments: my.unt.edu

Information and assistance regarding tuition and fee charges, waivers, installment payment of tuition and special fees; refunds; returned checks; identification cards.

Student Activities and Organizations

University Union, Suite 319
P.O. Box 305358
Denton, TX 76203-5358
(940) 565-2648

General information and non-academic counseling; policy interpretation; social adjustment problems; assistance for commuter and nontraditional students; assistance for disabled students; activities; registered organizations information.

Student Financial Aid and Scholarships

Eagle Student Services Center, Rooms 134 and 228
P.O. Box 311370
Denton, TX 76203-1370
(940) 565-2302
(800) 655-3537
Fax: (940) 565-2738
Web site: www.unt.edu/finaid

Counseling, application and status for federal, state and institutional financial aid programs, including Pell Grants, Supplemental Educational Opportunity Grants, Federal Perkins Student Loan program, Federal Work-Study program, Stafford Student Loan program, State Grants and scholarships.

Student Government Association

University Union, Suite 216b
P.O. Box 305069
Denton, TX 76203-5069
(940) 565-3850
Web site: www.unt.edu/sga

Student government; metro phones; Student and Faculty Directory; Raupe Scholarships; Eagle's Nest; Freshmen Interns.

Student Health and Wellness Center

Health Center, First Floor
P.O. Box 305160
Denton, TX 76203-5160
(940) 565-2331

Clinic hours of operation: fall and spring semesters — Monday through Thursday, 8 a.m. to 6 p.m.; Friday, 9 a.m. to 6 p.m.; Saturday, 9 a.m. to 1 p.m.; Pharmacy hours of operation: Monday through Friday, 9 a.m. to 6 p.m.; Saturday, 9 a.m. to 1 p.m.; Summer Clinic Hours: Monday through Friday, 8 a.m. to 5 p.m.; Summer Pharmacy Hours, Monday through Friday, 9 a.m. to 5 p.m.

Student Legal Services

University Union, Room 322AA
P.O. Box 305058
Denton, TX 76203-5058
(940) 565-2614
Fax: (940) 369-7251
Web site: www.unt.edu/legal

Legal advice on matters of civil law (i.e., landlord/tenant, consumer, debt and credit, etc.) for currently enrolled students.

Study Abroad Center

Kendall Hall, Room 115
 P.O. Box 311067
 Denton, TX 76203-1067
 (940) 565-2207
 Fax: (940) 565-4822
 E-mail: marybeth@isp.admin.unt.edu
 Web site: www.international.unt.edu/sac

Individual advising on study abroad opportunities to students and faculty; summer, semester and year long programs; facilitation of international credit transfer; hosts students from other universities; information/orientation for study, travel, work, and volunteer abroad programs and national grants for international study; international hostel and ID card service to traveling faculty, staff and students.

University Police, Parking and Transportation Department

Sullivant Public Safety Center
 1700 Wilshire P.O. Box 310948
 Denton, TX 76203-0948
 Police Department: (940) 565-3000
 Fax: (940) 369-8788
 Parking Services: (940) 565-3020
 Transportation Services: (940) 565-4989
 Visitor Information: (940) 565-3016

Police protection on a routine and emergency basis; crime prevention program; campus escort service; shuttle bus service; motorist assistance; emergency phone system.

Volunteer Center

University Union
 P.O. Box 305069
 Denton, TX 76203
 (940) 565-3021
 Fax: (940) 565-4446
 Web site: www.unt.edu/volunteer

Women's Center

University Union
 P.O. Box 305069
 Denton, TX 76203
 (940) 565-3527
 Fax: (940) 565-4446
 Web site: web2.unt.edu/dos/new/wc

University of North Texas Dallas Campus

(UNT System Center at Dallas)

8915 S. Hampton Road
 Dallas, TX 75232-6002
 (972) 780-3600 (*3600 dialing from the Denton campus)
 Fax: (972) 780-3636 (*3636 dialing from the Denton campus)

General University Internet Address

www.unt.edu/dallas
 E-mail: untdallas@unt.edu



The Toulouse School of Graduate Studies

Main Office
Eagle Student Services Center, 354

P.O. Box 305459
Denton, TX 76203-5459
(940) 565-2383

E-mail: gradschool@unt.edu
Web site: www.gradschool.unt.edu

Sandra L. Terrell, Dean

Lawrence J. Schneider, Associate Dean
Donna Hughes, Director of Graduate
Services and Graduate Admission

The Toulouse School of Graduate Studies administers the Center for Interdisciplinary Graduate Studies, which is responsible for the following degree programs:

- Master of Science, and
- Master of Arts, both with a major in interdisciplinary studies.

All students seeking to pursue any UNT graduate degree, teacher certification, graduate academic certificate, a second bachelor's degree, or who simply wish to register for courses as a non-degree student, must first apply for admission to the Toulouse School of Graduate Studies. A student who meets the basic standards for admission specified by the School of Graduate Studies is eligible for admission consideration by one of the degree programs offered at UNT. Please consult the Admission section of this catalog for information about the Toulouse School of Graduate Studies and for general admission standards and procedures.

In addition to general admission to the Toulouse School of Graduate Studies, each department requires additional information specific to their degree programs. For degree-specific information on admission standards and procedures, please consult the department regarding degree program admission.

Center for Interdisciplinary Graduate Studies

The Center for Interdisciplinary Graduate Studies currently sponsors the following degrees:

- Master of Science, and
- Master of Arts, both with a major in interdisciplinary studies.



The center also is involved in the sponsorship of universitywide efforts to bring together faculty with interests and concerns in specific interdisciplinary topic areas. As these interest groups are formed, information about each will appear in this catalog.

The Faculty of Women's Studies

Faculty members from diverse academic departments regularly teach courses examining women's roles, activities and experiences throughout history and across cultures. These courses expand understanding of gender differences, cultural diversity and social change, while strengthening critical thinking and communication skills. Teaching areas of the faculty currently include anthropology; applied gerontology; communication studies; criminal justice; economics; English; foreign languages and literatures; history; journalism; philosophy; political science; psychology; radio, television and film; religion studies; and sociology. The faculty of women's studies regularly present colloquia and lectures concerning their research and current issues in women's studies.

For further information about women's studies at UNT, please contact the Director of Women's Studies, General Academic Building, Room 302, P.O. Box 305189, Denton, TX 76203-5189; (940) 565-2098.

Master's Degrees in Interdisciplinary Studies

Toulouse School of Graduate Studies
Eagle Student Services Center, 354

P.O. Box 305459
Denton, TX 76203-5459
(940) 565-2383

Lawrence J. Schneider, Associate Dean and Coordinator of Interdisciplinary Studies

Donna Hughes, Director of Graduate Services and
Graduate Admissions

UNT offers a Master of Arts and a Master of Science with majors in interdisciplinary studies. A minimum of 36 semester hours of graduate courses is required for this degree. However, the program offers the student a high degree of flexibility in the selection of course work.

The major in interdisciplinary studies is coordinated directly by the associate dean of the Toulouse School of Graduate Studies. Prospective applicants for this program should discuss their plans with the associate dean.

Note: The interdisciplinary doctoral program in information science, formerly administered by the Toulouse School of Graduate Studies, is now administered by the School of Library and Information Sciences. Information on this program is included in the School of Library and Information Sciences section of this catalog.

Admission Requirements

Applicants for admission to the degree program in interdisciplinary studies must submit (1) a completed School of Graduate Studies application form, (2) complete transcripts and (3) a current resume, (4) three letters of recommendation and (5) a written statement of purpose outlining the course work areas to be combined on the degree and the goals the applicant hopes to accomplish by completing the degree. Please contact the School of Graduate Studies for further information regarding the statement of purpose. In addition, applicants are required to present scores on the verbal, quantitative, analytical or analytical writing sections of the Graduate Record Examination (GRE). All of the above materials and scores must be submitted prior to any enrollment for courses leading to the degree.

General Requirements

For both the Master of Science and Master of Arts with a major in interdisciplinary studies, the degree program must include no fewer than three separate fields of study with at least 6 hours in each field. For all sequences no more than 18 hours (including thesis and special problems) may be taken under any one course prefix or subject field. A degree plan committee,

representative of each of the several disciplines of the student's program, will be formed to help the student develop the degree plan and supervise the student's progress.

Students may choose the non-thesis option and complete at least 36 semester hours for a Master of Arts or Master of Science. Thesis option requires 30 semester hours plus 6 hours of thesis, for a total of 36 hours. Students must meet the foreign language requirement for the Master of Arts.

For either degree, a comprehensive final examination, oral and/or written, must be completed, ordinarily during the final term/semester of enrollment. The examination is prepared, administered and evaluated by the members of the student's degree plan committee.

Two possible approaches can be taken to designing an acceptable interdisciplinary studies degree program for either the Master of Arts or Master of Science.

Under the first approach, the candidate may plan a program designed to serve a particular intellectual interest not met by any specific degree program available through the traditional disciplines, making use of existing courses from any graduate area of the university.

Under the second approach, students pursue women's studies as a primary interdisciplinary theme.

Women's studies as a theme provides a somewhat more specialized focus while maintaining the interdisciplinary nature of the program. Each theme generally requires a common core of courses closely related to the area of interest, with provision for inclusion in the program of a number of electives drawn from several disciplines. In developing programs under a theme, students still must meet the general requirements for the interdisciplinary studies degree outlined above. Prospective students should note that in all cases the degree awarded upon completion of the program is a Master of Arts or Science with a major in interdisciplinary studies. This approach is not the same as pursuing a degree with a major in a specific discipline.

University Courses (UCRS)

University courses are interdisciplinary in nature and are available to students working toward the master's degree with the interdisciplinary major.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.



College of Arts and Sciences

Main Office
 General Academic Building, 210
 P.O. Box 305189
 Denton, TX 76203-5189
 (940) 565-2497
 Web site: www.cas.unt.edu

Warren Burggren, Dean

Jean B. Schaake, Associate Dean
 Kathryn Gould Cullivan, Associate Dean
 Michael Monticino, Associate Dean

Programs of Study

The College of Arts and Sciences, through its disciplines of humanities and arts, social sciences and sciences, offers course work leading to the following degrees:

- Master of Arts,
- Master of Fine Arts,
- Master of Science,
- Doctor of Audiology, and
- Doctor of Philosophy degrees.

Master's degrees are offered by all academic departments in the college. Among the more specialized master's programs are the master's degree with

a major in English as a second language offered by the Department of English and a master's degree in speech pathology offered by the Department of Speech and Hearing Sciences.

Doctoral programs in the college typically reflect the areas of academic specialization or focus of the various departments (see individual departmental descriptions in this catalog for specific information). All areas offer challenging programs that provide students with the opportunity to become experts in their chosen fields. A major emphasis in the college is to train graduate students in the fundamentals of research and to prepare them, especially on the doctoral level, to be critical thinkers who can advance human knowledge through research.

The college is composed of 17 academic departments.

- Biological Sciences
- Chemistry
- Communication Studies
- Dance and Theatre
- Economics
- English
- Foreign Languages and Literatures
- Geography
- History
- Journalism
- Mathematics
- Philosophy and Religion Studies
- Physics
- Political Science
- Psychology
- Radio, Television and Film
- Speech and Hearing Sciences

Research

Innovative research in the arts, humanities and social sciences is under way in such areas as technical writing, regional history, health psychology and applied communication skills. Research programs in the natural sciences, mathematics and technologies cover the fields of biology, chemistry, physics, mathematics and environmental science. Research initiatives within these fields include molecular biology and biotechnology, neuroscience, applied geography, environmental toxicology, artificial intelligence, environmental health, image processing, organometallic chemistry, laser and accelerator-based physics, materials characterization, and applications of geographic information systems.

Advising

For general information, contact the Toulouse School of Graduate Studies. For specific requirements for graduate degrees, contact the appropriate department chair or graduate adviser.

Department of Biological Sciences

Main Departmental Office
Biology Building, 210

P.O. Box 305220
Denton, TX 76203-5220
(940) 565-2011
Fax: (940) 565-3821

Web site: www.biol.unt.edu

Art J. Goven, Chair

Graduate Faculty: Atkinson, Ayre, Beitinger, Benjamin, Burggren, Chapman, Dickson, Dickstein, Dzialowski, Fitzpatrick, Fuchs, Goven, Gross, Jagadeeswaran, Kennedy, Kunz, LaPoint, O'Donovan, Padilla, Pirtle, Root, Schafer, Schwark, Sinclair, Smith, Stevens, Tam, Venables, Waller, Zimmerman.

Mission

The Department of Biological Sciences provides contemporary education of the highest quality to students pursuing graduate degrees in four degree programs: biology, biochemistry, molecular biology and environmental science. Research, strong professor-student mentoring, high-quality instruction and professional community service are the foundation of our mission.

Research

The cornerstone of our graduate programs is the creation of new knowledge through research. We offer students the opportunity to conduct research that leads to theses and dissertations in aquatic biology, aquatic toxicology, biochemistry, cell and molecular biology, ecology, environmental science, forensic biology, genetics, limnology, microbiology, neurobiology, physiology and plant sciences. Our research is supported through numerous public- and private-sector sources.

Department resources for research and graduate training occupy more than 200,000 square feet in the Biology Building, the Science Research Building and the Environmental Education, Science and Technology Building. Greenhouses and an aquatic field station are also available for research.

Degree Programs in Biological Sciences

The department offers graduate programs leading to the following degrees:

- Master of Arts (non-thesis or research problems in lieu of thesis), and
- Master of Science, both with majors in biology;
- Master of Science with a major in biochemistry;
- Master of Science with a major in environmental science;
- Master of Arts, and
- Master of Science, both with majors in molecular biology;
- Doctor of Philosophy with a major in biology;
- Doctor of Philosophy with a major in biochemistry;
- Doctor of Philosophy with a major in environmental science; and
- Doctor of Philosophy with a major in molecular biology, offered as part of the Federation of North Texas Area Universities.

Concentrations at the master's and doctoral level are available in ecology, microbiology and plant science.

The department offers research programs leading to the degrees listed above. Each MS requires a scholarly thesis based on original research by the student. The PhD represents attainment of the highest level of scholarship and achievement in the creation of new knowledge through independent research that culminates in a dissertation of scientific merit. The candidate is expected to have published or have accepted for publication at least one original research article in a refereed scientific journal prior to graduation.

The department offers a non-thesis option in the following degree programs: MS in biology (Teaching in the Life Sciences); MS (course work only)

in environmental science; MA (course work only) in biology; MA (problems in lieu of thesis) in biology; MA (course work only) in molecular biology; and MA (problems in lieu of thesis) in molecular biology.

Application and Admission to the Programs

Biology, Biochemistry, Molecular Biology and Environmental Science Programs

1. Application materials and information about our faculty and programs may be obtained by contacting the graduate advising secretary or coordinator of graduate programs in biology, biochemistry and molecular biology at (940) 565-3593, the environmental science program at (940) 565-3599, or from our web site (www.biol.unt.edu). Prospective applicants meeting our admission criteria are encouraged to become familiar with the research and degree programs within the department and to seek opportunities by contacting individual faculty members or the coordinator of graduate programs in biology, biochemistry, molecular biology and environmental science.

2. Applicants must first apply and be admitted to the Toulouse School of Graduate Studies to be considered for admission to a degree program in biology, biochemistry, molecular biology or environmental science. Applicants must also submit the following directly to the department:

- a. **departmental application form**;
 - b. **letter of intent**, including the specific program and degree sought (MA, MS or PhD); faculty member contacted as prospective professor/adviser; professional goals and objectives; the reason for choosing UNT, the Department of Biological Sciences and the specific area of interest (biology, biochemistry, molecular biology or environmental science); and
 - c. **three form letters of recommendation** from former professors if a recent graduate. One letter may be from an employer if employed for more than one year since graduation.
3. Completed applications for programs in biology, biochemistry and molecular biology meeting departmental acceptance criteria are reviewed by the faculty. Applications to the environmental science program are reviewed for acceptance by the environmental science graduate admissions committee. Only applicants selected by a faculty member who agrees to act as the student's major professor, i.e. adviser, are eligible for admission to a graduate program in biology, biochemistry or molecular biology, and for the PhD in environmental science. Master's students in the environmental science program may select a major professor, i.e. adviser, after admission.

4. **Application deadlines:** for financial support purposes completed applications must be received in the department on or before the following dates. We encourage applications at least three months prior to anticipated enrollment.

Fall term/semester	July 1
Spring term/semester	November 1
Summer term/semester	May 1

5. Departmental acceptance criteria.

a. Master's Degree (MA/MS):

- Unconditional admission to the Robert B. Toulouse School of Graduate Studies.
- Complete application.
- A letter of intent to the department, including the specific program and degree sought (MA, MS or PhD); faculty member contacts as prospective professor/adviser; professional goals and objectives; the reason for choosing UNT, the Department of Biological Sciences and the specific area of interest (biology, biochemistry, molecular biology or environmental science).
- Three form letters of recommendation to the department, from former professors if a recent graduate. One letter may be from an employer if employed for more than one year since graduation.
- Undergraduate GPA greater than or equal to 3.0 overall or greater than or equal to 3.2 in the last 60 hours.
- Submission of GRE scores (verbal, quantitative, and analytical writing sections) is required. The program views high GRE scores as positive indicators of potential success; however, low GRE scores need not exclude a candidate who demonstrates positive indicators in other areas.
- Completion of the Graduate Preparation Course (GPC) offered by the Intensive Language Institute may be substituted for the verbal section only of the GRE. Applicants using the GPC in lieu of the verbal section of the GRE may be required to take the GRE in order to meet requirements for other sections of the examination.
- The appropriate GRE subject test is also required for diagnostic purposes, not admission. In addition, the Medical College Admission Test (MCAT) may also be considered at the discretion of the department.
- Bachelor's degree with 24 hours in a life science, 12 of which are advanced, in a life science or appropriate related science is required for programs in biology, biochemistry and molecular biology.
- For the environmental science program, the bachelor's degree must include at least 6 credit

hours of a life science (3 of which must be ecology), 8 credit hours of chemistry (must be courses with laboratories) and mathematics through calculus.

- A score on the Test of English as a Foreign Language (TOEFL) that meets or exceeds the International Admissions Office requirements for international students whose native language is not English.
- Agreement by a faculty member to serve as the applicant's major professor, i.e. adviser, is required for programs in biology, biochemistry and molecular biology, but not the environmental science program.

Provisional admission of applicants not meeting all of the criteria, except for the requirement for a major professor, may be considered at the discretion of the department. Provisionally accepted students must satisfy all admission provisions, including deficiency courses, within the time designated by the department at the time of admission or will be dropped from the program.

b. Doctoral Degree (PhD):

- Undergraduate GPA greater than or equal to 3.0 overall and greater than or equal to 3.2 in the last 60 hours.
- GPA greater than or equal to 3.4 overall for any prior graduate work.
- Complete application.
- A letter of intent to the department, including the specific program; faculty member contacts as prospective professor/adviser; professional goals and objectives; the reason for choosing UNT, the Department of Biological Sciences and the specific area of interest (biology, biochemistry, molecular biology, or environmental science).
- Three form letters of recommendation to the department, from former professors if a recent graduate. One letter may be from an employer if employed for more than one year since graduation.
- Submission of GRE scores (verbal, quantitative, and analytical writing sections) is required. The program views high GRE scores as positive indicators of potential success; however, low GRE scores need not exclude a candidate who demonstrates positive indicators in other areas.
- Completion of the Graduate Preparation Course (GPC) offered by the Intensive Language Institute may be substituted for the verbal section only of the GRE. Applicants using the GPC in lieu of the verbal section of the GRE may be required to take the GRE in order to meet requirements for other sections of the examination.
- The appropriate GRE subject test is also required for diagnostic purposes, not admission. In

addition, the Medical College Admission Test (MCAT) may also be considered at the discretion of the department.

- A score on the Test of English as a Foreign Language (TOEFL) that meets or exceeds the International Admissions Office requirements for international students whose native language is not English.
- Bachelor's degree with 24 hours in a life science or appropriate related science, 12 of which are advanced; a master's degree in a life science, with a research-based thesis is desirable for programs in biology, biochemistry and molecular biology.
- For the environmental science program the bachelor's degree must be in an appropriate field related to environmental science, with course work in a life science, chemistry and mathematics. Master's program must include a thesis appropriate to environmental science.
- Agreement by a faculty member to serve as the applicant's major professor, i.e. adviser, is required for all programs.

There is no provisional admission to the PhD program.

Complete applications for programs in biology, biochemistry and molecular biology meeting departmental acceptance criteria are made available for review by the faculty of the Department of Biological Sciences. Applications to the environmental science program are reviewed by the Environmental Science Graduate Admissions Committee. Only applicants selected by a faculty member who agrees to act as the student's major professor, i.e. adviser, are eligible for admission to a graduate program in biology, biochemistry or molecular biology, and for the PhD in environmental science. Students may be admitted to the environmental science master's program before selecting a major professor/adviser.

Degree Programs

Biology Program

The biology program provides students the option of selecting a research track leading to the Master of Science (MS) or Doctor of Philosophy (PhD) in biology, or a non-research track leading to the Master of Arts (MA) in biology. Students interested in obtaining both a master's degree and certification to teach life sciences at the secondary level may select the non-research Master of Science in biology: teaching in the life sciences. Students pursuing a research degree have the opportunity to conduct research leading to a thesis or dissertation in a variety of specializations, including aquatic biology, aquatic toxicology, ecology, forensic biology, genetics, immunology, limnology, microbiology, neurobiology, physiology and plant biology. Visit www.biol.unt.edu for research interests

of the faculty. Information on degree requirements follows the program descriptions.

Degrees in Biology

- **Master of Science (MS) in Biology** is a 30-hour research degree that requires 24 hours of formal course work, special problems and seminars at the 5000 and 6000 levels, plus a 6-hour thesis.
- **Master of Science (MS) in Biology (Teaching in the Life Sciences)** is a 36-hour non-thesis degree for students who have a BA or BS in a life science and wish initial teacher certification for teaching the life sciences at the secondary level. The degree requires 18 hours in biology (BIOL 5260, 5830 and 6150, plus 9 elective graduate hours in biology) and 18 hours in secondary education (EDSE 5002, 5004, 5105, 5115, 5130 and 5470). Admission to secondary education courses requires the student to meet all College of Education requirements. Students completing this non-thesis MS are not eligible for the PhD program in the Department of Biological Sciences.
- **Master of Arts (MA) in Biology** is a 36-hour non-thesis degree with two options: (1) 30 hours of organized course work at the 5000 and 6000 levels and a 6-hour problems in lieu of thesis; or (2) 36 hours of formal course work at the 5000 and 6000 levels. Students completing the non-thesis MA at UNT are not eligible for the PhD program in the Department of Biological Sciences. The MA has a foreign language requirement.
- **Doctor of Philosophy (PhD) in Biology** is a scholarly research program of 90 hours at the 5000 and 6000 levels beyond the Bachelor's degree or 60 hours beyond the master's degree, including a 12-hour dissertation.

Biochemistry Program

Research Faculty: Ayre, Benjamin, Chapman, Dickstein, Kunz, O'Donovan, Padilla, Pirtle, Root, Smith.

Faculty research interests in biochemistry reflect the broad nature of this discipline, including regulation of microbial and plant metabolism, regulation of prokaryotic and eukaryotic gene expression and regulation of protein-protein interactions. A specially tailored degree plan will be determined in consultation with the student's major adviser and graduate committee members. Research laboratories are equipped with state-of-the-art instrumentation, and several courses focus on contemporary technical approaches in biochemistry and molecular biology. Specialized instrumentation assists in the analyses of protein/nucleic acid structure and function, molecular imaging, metabolite identification, functional genomics and gene discovery. Visit www.biol.unt.edu for more information on the research interests of the

biochemistry program faculty. Information on degree requirements follows the program descriptions.

Degrees in Biochemistry

- **Master of Science (MS) in Biochemistry** is a 30-hour research degree that requires 24 hours of formal course work including a minimum of three biochemistry core courses* (with a minimum grade of B) beyond BIOC 5540 and 5550, special problems, and seminars at the 5000 and 6000 levels, plus a 6-hour thesis. Supporting elective courses may be in biology, chemistry, computer science, mathematics or physics.
- **Doctor of Philosophy (PhD) in Biochemistry** is a research program of 90 hours at the 5000 and 6000 levels beyond the bachelor's degree or 60 hours beyond the master's degree, including a 12-hour dissertation. A minimum of four biochemistry core courses* beyond BIOC 5540 and 5550 with a minimum grade of B required. Supporting elective courses may be in biology, chemistry, computer science, mathematics or physics.

***Biochemistry Graduate Core Courses:** BIOC 5540 and 5550, or the equivalents, are prerequisites for the core courses. Three of the following are required for the MS and four for the PhD: BIOC 5340 or 6600 (only one may count as a core course), 6610, 6620, 6630 and 6640. In exceptional cases the substitution of a comparable course may be made for one core course.

Molecular Biology Program

The molecular biology program leading to the PhD degree is offered through the Federation of North Texas Area Universities to students enrolled at UNT or Texas Woman's University (TWU). Students enrolled through either UNT or TWU have the opportunity to take courses, participate in seminars and conferences, and conduct research at both universities. Research opportunities at UNT include pyrimidine metabolism in bacteria; *Pseudomonas* ATCase; mechanisms of natural transformation in Gram-negative bacteria; organization and evolution of *Pseudomonas* catabolic plasmids; role of 5-hydroxytryptamine in the regulation of glycolysis; cyanide biodegradation; chemistry and enzymology of pathways for catabolism of aromatic compounds in soil microorganisms; brain-stem lipids; mammalian and plant gene structure, organization and expression; and regulations of blood cell differentiation. Research opportunities at TWU include binding and transport in cell membranes, gene regulation and hormone action, glycoprotein synthesis and secretion, functions of estrogen compounds in plants, biology of retro-viruses, bacterial conjugation and gene transfer, aspects of brain development and brain function, and mechanisms of generating motor patterns. Visit the web site at

www.biol.unt.edu for research interests of the UNT faculty. Visit www.twu.edu/ac/bio for the research interests of the TWU faculty. Applications are considered for the molecular biology program only after meeting the admission requirements either of the Robert B. Toulouse School of Graduate Studies and the Department of Biological Sciences at UNT or the Graduate School and Department of Biology at TWU. Information on degree requirements at UNT follows the program descriptions.

Degrees in Molecular Biology

- **Master of Arts (MA) in Molecular Biology** is a non-thesis degree offered through UNT that requires 36 hours with two options: (1) 30 hours of organized course work at the 5000 and 6000 levels and a 6-hour problems in lieu of thesis; or (2) 36 hours of formal course work at the 5000 and 6000 levels. Students completing the non-thesis MA at UNT are not eligible for the PhD program in the Department of Biological Sciences. The MA degree has a foreign language requirement.
- **Master of Science (MS) in Molecular Biology** is a 30-hour research degree offered through UNT that requires 24 hours of formal course work, special problems, and seminars at the 5000 and 6000 levels, plus a 6-hour thesis.
- **Doctor of Philosophy (PhD) in Molecular Biology** is a scholarly research program, offered through the Federation of North Texas Area Universities, of 90 hours at the 5000 and 6000 levels beyond the bachelor's degree or 60 hours beyond the master's degree, including a 12-hour dissertation.

Environmental Science Program

Research Faculty: Atkinson, Beiting, Dickson, Kennedy, LaPoint, Venables, Waller, Zimmerman.

The environmental science program is an interdisciplinary collaboration among the Department of Biological Sciences, the Department of Geography, the Department of Chemistry, the Department of Philosophy and Religion Studies and other departments at UNT. The program offers graduate studies in environmental science that lead to the MS and PhD, granted through the Department of Biological Sciences. The course of study, involving both core and elective courses, is designed to accommodate students with various backgrounds and interests in the natural, physical and social sciences who desire careers related to environmental science. Students are trained to identify problems, collect and interpret data, and develop solutions to complex and challenging environmental problems facing municipalities, industries, utilities and government agencies.

Visit www.biol.unt.edu or www.ias.unt.edu for more information on the diverse research interests of the environmental science program faculty, including

aquatic biology, analytical chemistry, aquatic and terrestrial toxicology, ecology, ecophysiology, limnology, remote sensing and land use analyses, and environmental modeling. Information on degree requirements follows the program descriptions.

Degrees in Environmental Science

- **Master of Science (MS) in Environmental Science** has two options: (1) a 36-hour scholarly research degree that requires 30 hours of organized course work, special problems, and seminars at the 5000 and 6000 levels, plus a 6-hour thesis; or (2) a 42-hour program of organized course work at the 5000 and 6000 levels. The thesis option includes a core of 19 or 20 semester hours (depending on which optional core courses are selected), with the remaining 16 or 17 semester hours selected from a list of electives. The non-thesis option includes a core of 25 to 28 semester hours (depending on which optional core courses are selected), with the remaining 14 to 17 hours selected from a list of electives. Each student must select the thesis or non-thesis option upon admission to the program and, with the guidance of a graduate advisory committee, develop an individual degree plan according to the student's area of interest. Students completing the non-thesis option are not eligible for the PhD program in the Department of Biological Sciences.
- **Doctor of Philosophy (PhD) in Environmental Science** is a scholarly research program of 90 hours at the 5000 and 6000 levels beyond the bachelor's degree or 60 hours beyond the master's degree, including a 12-hour dissertation. The degree plan includes 41 to 45 semester hours of core requirements (depending on which optional core courses are selected) and 12 hours of dissertation. The remaining hours are selected from a list of electives, the number of hours depending on whether the student is in the 60-hour or 90-hour program.

Degree Requirements and Procedures

Biology, Biochemistry, Molecular Biology and Environmental Science Programs

Master's Degree

1. The program and specific degree is determined before admission.
2. During the **first** long term/semester, the student and major professor select an advisory committee of two other faculty members, one of whom must be from the departmental faculty. The third may be from another UNT department, the Federation of North Texas Area Universities, or another university if the member is granted adjunct status in the department. Additional members may be added to the committee as long as the majority of the committee are faculty in

the Department of Biological Sciences. A copy of the form designating the committee should be filed with the graduate advising secretary before the student's second long term/semester. Students in the MS in biology (Teaching in the Life Sciences) are advised by the Teaching in the Life Sciences Program Selection Committee.

3. Before registering for the **second** long term/semester, the student, major professor and advisory committee formulate a degree plan of the courses to be taken by the student, including core course requirements and deficiency work. Research MS students in biology, biochemistry and molecular biology must take a minimum of 24 hours of formal courses, special problems and seminars, plus 6 hours of thesis.

Students in the MS in biology (Teaching in the Life Sciences) must take 18 hours of biology courses, including BIOL 5260, 5830 and 6150, plus 18 hours in secondary education (EDSE 5002, 5004, 5105, 5130 and 5470).

Students in the biology program's MA course work-only option must take a minimum of 36 hours of formal 5000-6000 level courses. Students in the biology program's MA problems in lieu of thesis option must take 30 hours of formal courses plus 6 hours of problems in lieu of thesis. The MA has a language requirement.

Research MS students in environmental science must take a minimum of 30 hours of formal courses, special problems and seminars, plus 6 hours of thesis.

Students in the environmental science MS non-thesis option must take a minimum of 42 hours of formal 5000- to 6000-level courses. Only 6 hours of special problems (5900/5910) may be applied to the research MS degree program.

The degree plan, signed by all committee members, should be filed with the graduate advising secretary for programs in biology, biochemistry and molecular biology, or with the environmental science program's graduate advising secretary, before the beginning of the student's second long term/semester. The degree plan must be approved by the chair of the Department of Biological Sciences before it is forwarded to the Robert B. Toulouse School of Graduate Studies.

All course work must be at the 5000 and 6000 levels. Students pursuing the MA or MS may not receive graduate credit for any course below the 4000 level by taking the course under a 5000-level designation, such as special problems. Undergraduate courses, except those cross listed as graduate courses, are considered to be deficiencies and are not included in the graduate degree plan hours.

4. Before registering for the **third** long term/semester, students on a thesis or problems in lieu of thesis track should submit a formal research proposal to the major professor and advisory committee for approval.

Students may not register for thesis (5950) or problems in lieu of thesis (5920/5930) until an approved research proposal is filed with the graduate advising secretary.

5. After the approved research proposal is filed, the student may register for thesis or problems in lieu of thesis hours. Once registered for thesis, but not problems in lieu of thesis, **the student must maintain continuous enrollment in at least 3 hours of 5950 during each long term/semester until the thesis is submitted to the graduate school.** Failure to maintain continuous enrollment may invalidate previous thesis credit or result in the student being dropped from the degree program, unless granted an official leave of absence by the dean of the Robert B. Toulouse School of Graduate Studies. If the student uses university facilities or faculty time or both during one or more summer terms/semesters, the student must also enroll for a minimum of 3 hours of 5950 during the summer.

6. Following approval by the major professor, a draft of the completed thesis or problems in lieu of thesis must be submitted to the committee at least two weeks prior to its defense and final examination.

7. A formal public seminar based on the thesis must be presented by the student to the department (students pursuing a problems in lieu of thesis present only to their committee) during the student's final term/semester. The student must schedule a room for and publicly advertise the seminar and defense through the graduate advising secretary for biology, biochemistry and molecular biology, or environmental science.

8. Directly following the seminar, the student defends the thesis in a final oral examination conducted by the major professor and advisory committee.

9. Students in the MA 36-hour biology course work option and the environmental science MS non-thesis option must take a final comprehensive oral examination given by the adviser/major professor and advisory committee during the final term/semester. Students in the MA problems in lieu of thesis option must take their final examination during presentation of the problems in lieu of thesis to the faculty adviser/major professor and advisory committee in the final term/semester. Students in the MS in biology (Teaching in the Life Sciences) must take a final oral comprehensive examination given by the Teaching in the Life Sciences Advisory Committee during the final term/semester.

10. The student is responsible for completing all requirements and meeting all deadlines for graduation within the time specified by the graduate school.

11. A final copy of the student's thesis or problems in lieu of thesis must be submitted to the Department

of Biological Sciences main office, either bound or on disk in .pdf format.

Doctoral Degree

1. During the **second** long term/semester, the student and major professor select an advisory committee of four other faculty members, three of whom must be from the department faculty. The fourth may be from another UNT department, the Federation of North Texas Area Universities or another university if the member is granted adjunct status in the department. Additional members may be added to the committee as long as the majority of the committee are faculty in the Department of Biological Sciences. A copy of the form designating the committee should be filed with the graduate advising secretary before the student's third long term/semester.
2. Before registering for the **third** long term/semester, the student, major professor and advisory committee prepare a formal degree plan of the courses to be taken by the student, including the language or tool subject requirement. The degree plan consists of 60 hours for students with an approved master's degree, or 90 hours for students having only a bachelor's degree, including 12 hours of dissertation. Only 6 hours of special problems (6900/6910) may be counted toward the degree. The number of individual research (6940) hours counted toward the degree is determined by the adviser and advisory committee. A copy of the degree plan, signed by all committee members, should be submitted to the graduate advising secretary before the student's **third** long term/semester. All course work must be at the 5000 and 6000 levels. Doctoral students may not receive graduate credit for any undergraduate course by taking the course under a 5000- or 6000-level designation, such as special problems. Undergraduate courses, except those cross listed as graduate courses, are considered to be deficiencies and are not included in the graduate degree plan hours.
3. Students must satisfy the Robert B. Toulouse School of Graduate Studies' language requirement or, in lieu of a foreign language, students may complete 6 hours of acceptable tool subject courses specified by the major professor and the advisory committee. Exceptions to this requirement may be made for students whose native language is not English.
4. Students who filed degree plans prior to 1996 were required to select, in consultation with the major professor, a UNT faculty member from outside the department to serve as a university committee member. Students filing a degree plan after 1996 are not required but may choose to have an external UNT committee member. It is the responsibility of the student and major professor to make all contacts with the external committee member.
5. Before registering for the **fifth** long term/semester, a formal research proposal should be submitted to the major professor and advisory committee for approval. Students should have an approved research proposal filed with the graduate advising secretary for programs in biology, biochemistry and molecular biology, or environmental science prior to registering for dissertation (6950).
6. Only following submission and approval of the research proposal may the student begin registering for dissertation hours. Once registered for dissertation, **the student must maintain continuous enrollment in at least 3 hours of 6950 during each long term/semester until the dissertation is submitted to the graduate school.** Failure to maintain continuous enrollment may invalidate previous 6950 credit or result in the student being dropped from the degree program, unless granted an official leave of absence by the dean of the Robert B. Toulouse School of Graduate Studies. If the student uses university facilities or faculty time or both during one or both summer terms/semesters, the student must also enroll for a minimum of 3 hours of 6950 during the summer.
7. Doctoral students may take written and oral candidacy examinations only after completion of all of their degree plan course requirements. Oral examinations may be taken only after the student has passed all written examinations. **Both examinations must be completed at least nine months prior to graduation.** The manner and form of the written and oral candidacy examinations are determined by the major professor, who is chair of the student's advisory committee, and the committee members. The student must schedule a room for the examinations through the graduate advising secretary for biology, biochemistry, molecular biology or environmental science. The committee members should send all written examinations to the graduate advising secretary at least one day prior to the scheduled date of the examination. The examining professor sets guidelines for administration of written examinations.
8. Following approval by the major professor, a draft of the dissertation must be submitted to the committee at least two weeks prior to the defense of the dissertation and final examination.
9. A formal seminar based on the dissertation must be presented by the student during the student's final term/semester. The candidate must schedule a room for and publicly advertise the seminar and defense through the graduate advising secretary for biology, biochemistry, molecular biology or environmental science.
10. Directly following the seminar, the candidate defends the dissertation in a final oral examination conducted by the major professor and advisory committee.

11. The candidate is responsible for completing all requirements and meeting all deadlines for graduation within the time specified by the graduate school.
12. A final copy of the dissertation must be submitted to the Department of Biological Sciences main office either bound or on disk in .pdf format.

Institute of Applied Sciences

Main Office
Environmental Education, Science and Technology
Building, 215

P.O. Box 310559
Denton, TX 76203-0559
(940) 565-2694

Web site: www.ias.unt.edu

E-mail: lapoint@unt.edu or cking@unt.edu

Thomas LaPoint, Director

The Institute of Applied Sciences (IAS) provides research and educational programs that address the natural and human resource issues facing Texas, the nation and the world. With an emphasis on water, land, people and communities, IAS seeks to explore resources for the future. The strength of IAS is its interdisciplinary approach to instruction, research and community service. The Institute is presently organized into four program areas: water resources, environmental chemistry, remote sensing and land use analysis, and archaeology. The institute provides educational programs for students seeking training in environmental studies and other applied science areas. It also offers continuing education programs such as workshops, mini-courses, seminars and symposia to the public.

Activities include basic and applied studies in a variety of fields in the applied sciences, including the analysis of trace organic and inorganic compounds in air, water, soils, waste materials and biological samples; toxicology; land use analysis via remote sensing and Geographic Information Systems (GIS); archaeological reconnaissance and salvage; and water resources management. The institute is particularly active in the coordination and execution of joint research projects with industry and governmental agencies in these areas. The following centers support this role.

Aquatic Toxicology and Reservoir Limnology

As one of the foremost aquatic toxicology laboratories in the Southwest, the lab is equipped to conduct acute and chronic toxicity tests with freshwater and marine organisms for industries and municipalities on the effects of chemicals on aquatic ecosystems. The reservoir limnology program conducts water quality research on rivers and reservoirs throughout Texas.

Remote Sensing and Land Use Analyses

The Center for Remote Sensing (CRS) applies remote sensing technologies and Geographic Information Systems (GIS) to land use and water resources issues. The center's state-of-the-art computer facilities for remote sensing data collection, image enhancement, classification and analyses support a variety of basic and applied research. The primary thrust of the research is to understand interrelationships between local or regional land use patterns and water quality. The center has a fully equipped Earth Resources Data Analysis System (ERDAS) and ARC/INFO capabilities.

Ecological Risk Assessment/Water Research Field Station

UNT has two of the few facilities in the U.S. designed to assess, under field conditions, the effects of new chemicals and pesticides on aquatic ecosystems prior to their use in the general environment. The Water Research Field Station (WRFS) consists of 48 aquatic testing ponds of 0.1 acre each and 52 1,000- and 10,000-liter microcosms. The Artificial Stream Facility has 12 replicate five-meter streams, each capable of being colonized by aquatic species. The WRFS is specifically designed to assess the impacts of agrichemicals on aquatic populations and communities. The field station and stream facility are supported on campus by a biological and residue analysis laboratory with state-of-the-art equipment.

Environmental Chemistry

The Environmental Chemistry Laboratory supports research on the physical and chemical processes that control the fate and effect of chemicals in soil, surface water, ground water and the atmosphere using state-of-the-art equipment to analyze metals and organic chemicals in water and soils.

Environmental Archaeology and Geology

The institute's faculty are experienced in the design and implementation of cultural resource management projects. The emphasis is on reconstruction of past environments and cultural ecology as part of archaeological research. Quaternary geologic studies are supported by a sediment-soils laboratory that has full capabilities for mechanical, chemical and mineralogical analyses of samples from archaeological sites and natural deposits. A comparative osteology lab maintains an extensive collection of animal skeletons for zooarchaeological research and forensic analysis. An off-campus lab includes facilities for artifact washing and cataloging, detailed analysis and artifact curation. Environmental geology, groundwater hydrology, geomorphology, soil science, sedimentology and hydrology research are also conducted.

Environmental Modeling

This laboratory develops and uses mathematical models and computer simulations for the assessment of risks and impacts of anthropogenic stressors on ecological systems. Research is conducted at local, landscape, regional and global scales. The main themes of the laboratory involve linking of environmental models to remote sensing, GIS and other advanced technology in order to understand landscape and regional dynamics; reveal global change effects on ecosystems; and to relate environmental policies to environmental issues and economic development.

Center for Network Neuroscience

Main Office
Science Research Building, 120
P.O. Box 305220
Denton, TX 76203-5220
(940) 565-3615
E-mail: gwgross@cnnns.org

Guenter W. Gross, Director

Students interested in neurobiology, neuropharmacology, tissue-based biosensors or the mathematics of neural modeling may participate in an interdisciplinary research effort directed at investigating the behavior of neurons in networks and the application of network dynamics to the field of neurotoxicology, drug development, biosensors and small ensemble information processing.

The center specializes in *in vitro* preparations, especially monolayer cultures of mammalian (mouse) central nervous system cells that emphasize research on pattern generation. The center pioneered the development and application of photoetched multi-microelectrode arrays and special culture chambers that allow the simultaneous monitoring of electrical activity at 64 sites in a network. Sophisticated multi-channel data analysis systems support these research efforts.

Laboratory of Forensic Anthropology and Human Identification

Main Office
Department of Biological Sciences
E-mail: harrell@unt.edu

Harrell Gill-King, Director

The Laboratory of Forensic Anthropology and Human Identification provides field search and recovery technology and scientific laboratory analysis of human remains to medical examiners, coroners and law enforcement agencies within the state of Texas. The laboratory also provides accredited professional

training in forensic science to death investigators. The main laboratory and x-ray facility are housed in the Department of Biological Sciences together with a teaching laboratory. Cooperating facilities include the Videocomputing Laboratory (Center for Instructional Services) and the Zooarchaeology Laboratory (Institute of Applied Sciences). Research activities focus on material properties of bone, isotopic dietary reconstruction and taphonomy.

Financial Support

Most of our graduate students are supported through teaching assistantships (TAs) and research assistantships (RAs) funded through research grants to faculty. Assistantships are limited to 20 hours per week, which is considered as half-time employment. Nine-month stipends range from \$10,800 for entering master's students to \$12,400 for PhD candidates. In addition, out-of-state and international students who are supported at least one-half time are eligible for in-state tuition. Students supported for nine months on TAs or RAs are eligible for 12-month health insurance coverage. A limited number of summer TAs are available. Contact the Administrative Services Officer at (940) 565-3600 for further information about assistantships. Contact Student Financial Aid and Scholarships at (940) 565-2302 for student loan information.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Chemistry

Main Departmental Office
Chemistry Building 101
P.O. Box 305070
Denton, TX 76203-5070
(940) 565-2713

Web site: www.chem.unt.edu
E-mail: chem@unt.edu

Ruthanne D. Thomas, Chair

Graduate Faculty: Acree, Borden, Braterman, Chyan, Cooke, Cundari, Golden, Jones, Kelber, J. Marshall, P. Marshall, Mason, Omary, Richmond, Schwartz, Selby, Theriot, Thomas, Wilson.

Student stipends, including teaching assistantships and research fellowships, are available from a variety of sources. Stipends may range up to \$20,000 per year depending upon demonstrated academic and research competence. Further information may be obtained from the chair of the Graduate Affairs Committee.

Research

A variety of research programs are in progress involving analytical, computational, inorganic, organic and physical chemistry, as well as chemistry education. Specific areas of study include synthesis, properties and kinetic investigations of transition metal carbonyls; syntheses and properties of nitrogen heterocycles; NMR applications to organometallic chemistry; gas phase kinetics; spectroelectrochemistry; morphology of inorganic precipitates; thermodynamics; Raman scattering; materials analysis and development; properties of surface adsorbed molecules; crystallography; polymer liquid crystals; interfacial processes; organosilicon synthesis and kinetics; polycyclic cage compounds; ferroelectric thin films; basis set development; computer-aided catalyst design; computational organic chemistry; chemical vapor deposition; and reactivities of metal and oxide surfaces.

The department possesses more than \$2.7 million of capital equipment, including 200 MHz, 90 MHz multinuclear and 300 MHz multinuclear FT-NMR with CP/MAS solids capability, ESR, Auger/ESCA, ICP, FT-IR, Raman, mass spectrometers, stopped-flow kinetic analyzer, pulsed-laser flash photolysis, laser-induced fluorescence spectrometers and state-of-the-art high-performance computing.

Studies are conducted with the assistance of graduate and undergraduate students, research technicians and post-doctoral fellows. Other technical

personnel include full-time instrument technicians and a glassblower.

Financial support for research is provided by the Robert A. Welch Foundation, the National Science Foundation, the Air Force Office of Scientific Research, the Army Research Office, the Office of Naval Research and the Department of Energy.

Additional sources of research funding include the Texas Advanced Research and Technology Program, Texas Instruments, Electrical Power Research Institute, Sun Exploration, the UNT Faculty Research Fund and several industrial fellowships.

Admission Requirements

Departmental forms for applying for teaching and research support may be obtained from the chair of the Graduate Affairs Committee of the Department of Chemistry or from the World Wide Web. Complete college transcripts, two letters of recommendation and an acceptable GRE score are required for conditional admission. Contact the department or the Toulouse School of Graduate Studies for information concerning acceptable admission test scores.

New students should contact the chemistry Graduate Affairs Committee immediately upon arriving on campus for information on departmental requirements. A departmental policy bulletin that delineates these requirements is available to students.

Students must take placement examinations covering undergraduate analytical, inorganic, organic and physical chemistry. These examinations are given during registration week of each long term/semester. The results of these examinations are used for counseling purposes. The chemistry department employs a core course system that requires its students to take graduate courses in specified areas.

Advisory Program

The chemistry Graduate Affairs Committee serves as adviser to the beginning student. When a field of specialization and a major professor have been selected, a committee is then appointed to serve in an advisory capacity. The minimum number of committee members is two for the master's and four for the doctoral advisory committee. The student meets yearly with this committee for research progress reports and consultation. PhD committees will also choose an individual from outside the university who is knowledgeable in the student's area of research to serve in an advisory capacity to the committee.

Degree Programs

The department offers graduate programs leading to the following degrees:

- Master of Science with a major in chemistry; and
- Doctor of Philosophy with a major in chemistry.

Concentrations are available at the master's level in analytical, computational, industrial, inorganic, organic, physical chemistry or chemistry education.

Concentrations at the doctoral level are available in analytical, computational, inorganic, organic or physical chemistry or chemistry education.

Below is an abbreviated description of each of the degrees offered. Complete descriptions of degree requirements are contained in the *Department of Chemistry Graduate Policy Bulletin*. A copy can be obtained from the chair of the Graduate Affairs Committee.

Master of Science

Analytical, Inorganic, Organic or Physical Chemistry

The applicant seeking a master's degree in one of these areas will plan a program with the assistance of the advisory professor and the advisory committee. A graduate major must present credit for at least 30 semester hours. The student must maintain a B average in all formal chemistry course work. The student must write a thesis describing his or her research and must defend the thesis at an oral examination administered by the advisory committee.

The Department of Chemistry requires completion of three of the four core courses (one of which must be in the student's area of research) with an average grade of B or above. A thesis is required.

Industrial Chemistry

This degree is designed for students with specific interests in selected areas of applied chemistry. The degree requirements are determined by consultation with the graduate affairs committee. The program leads to a non-thesis degree requiring 36 semester hours of formal course work, at least one-half of which (18 hours) must be in chemistry. Supplemental non-chemistry courses must include at least 12 hours and must be approved by the student's committee. In addition to the formal courses, either 3 or 6 hours of the total 36 hours must comprise on the job research training in an industrial position (or equivalent on the job training).

Chemistry Education

This program is designed primarily for students who do not possess a degree in chemistry (e.g., secondary education majors) but who may desire to enter a graduate program. With the aid of the chemistry adviser, the student may choose a 30-semester-hour program, including thesis, or a 36-semester-hour program without thesis. A minimum of 12 hours in formal course work in chemistry is required. In order to qualify for this degree, a student must have received teaching certification prior to admission or must obtain this certification prior to receiving the degree.

Doctor of Philosophy

The course requirements for the PhD degree require that a student complete core courses in three of the four areas of chemistry (including the student's area of research). Students must complete three additional advanced courses (of which at least two must be in the Department of Chemistry). The student must maintain a B average or better in these six courses. This research must culminate in the writing of a dissertation of demonstrable scientific merit. It is normally required that at least one paper be accepted in a refereed journal by the time of the oral defense.

After completion of the formal course work, foreign language or computer science requirement, and CHEM 6010, the student will apply to the dean of the Toulouse School of Graduate Studies for admission to candidacy for the Doctor of Philosophy degree. This should be done at least one year before graduation.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Communication Studies

Main Departmental Office
General Academic Building, 320

P.O. Box 305268
Denton, TX 76203-5268
(940) 565-2588

Fax: (940) 565-3630

Web site: www.comm.unt.edu

John M. Allison, Chair

Graduate Faculty: Allison, Anderson, Bennett, Byers, Gossett, Lain, Richardson, Shukla, Taylor.

The Department of Communication Studies offers the following degrees:

- Master of Arts, and
- Master of Science, both with a major in communication studies.

Theory and research in communication studies examine communication in human affairs and the symbolic processes through which humans interact. The curriculum is designed to facilitate student mastery of theory and research, to develop student research capabilities and to enhance student preparation for a variety of careers or for further graduate study.

The department offers course work in rhetorical, performance and social science traditions. Students are afforded opportunities to explore communication from applied and theoretical perspectives using analytical, critical, quantitative and qualitative methodologies. Course work features the investigation of communication in interpersonal, organizational, aesthetic, health, cultural, intercultural, legal, political and international contexts. Students will encounter topics such as gender and diversity issues, social change, conflict and narrative. The graduate experience often is enhanced by opportunities to engage in consulting; conducting research with faculty members; and participating in regional and national festivals and professional conferences, and/or internships with corporations, social service organizations, arts organizations and government agencies.

Teaching assistantships are awarded competitively to prospective students with excellent academic backgrounds and potential as effective classroom teachers. Interested individuals should contact the department office for application materials.

Graduates of this program should be able to demonstrate competence in making a public oral

presentation or performance to a graduate student audience in communication studies; demonstrate advanced knowledge of the field of communication studies by designing and conducting an original research project and presenting the findings and implications of that research in appropriate form; interpret, explain, present, and/or illustrate knowledge of theoretical concepts in communication studies; present an effective oral defense of arguments; explain the dynamic interrelationship among communicators, contexts and culture in the generation and processing of instances of communication; and demonstrate competence in written communication in terms of content as well as form.

The department also supports an interdisciplinary doctorate with a major in information science. See the School of Library and Information Sciences section of this catalog for more information.

Research

Research interests of the faculty in the Department of Communication Studies include the areas of:

1. rhetorical analysis and criticism of persuasive public communication in historical, political and cultural contexts;
2. the role of communication in organizations, professions and groups, including planned social change, superior-subordinate-coworker communication, training and consulting, conflict management, interpersonal and professional relationships, and small group communication and decision-making;
3. performance of texts, literary and performance theory and criticism, history of performance studies, intertextuality, phenomenology, and literary and rhetorical applications of narrative theory;
4. interpersonal communication, including listening, communication apprehension, intimate communication, gender and communication, communication in the family, communication and aging, communication style and assertiveness, health communication, mediation, interpersonal conflict, human information processing and interpersonal influence;
5. legal communication, including investigation of theories and case law related to the First Amendment guarantee of freedom of speech, as well as applied research related to expert testimony;
6. critical and cultural studies of communication, cultural values, ideologies and politics;
7. intercultural communication; and
8. narrative studies.

Admission Requirements

Because of the interdisciplinary nature of much of the work done in the Department of Communication

Studies, admission is open to many who did not major in communication as undergraduates. Applicants with fewer than 24 hours of undergraduate communication course work may request admission on the basis of communication-related courses.

Application to the master's program in communication studies involves completion of two separate applications. The prospective student files the application with the Toulouse School of Graduate Studies (available at the Toulouse School of Graduate Studies web site). A second application, submitted to the Graduate Standards Committee in the Department of Communication Studies, should include the following:

1. A signed letter of application that includes a statement addressing the applicant's purpose in undertaking graduate study in the UNT communication studies department. In addition to indicating the semester and year he or she would like to enter the program, the applicant should include professional plans, career goals and areas of research interest.
2. Academic transcripts of all previous undergraduate and graduate course work.
3. A current curriculum vitae or resume that addresses each of the following areas:
 - a. educational background;
 - b. previous work experience;
 - c. publications, performances, exhibitions or other scholarly activities;
 - d. previous research experience; and/or
 - e. involvement in community activities.
4. Two letters of recommendation from individuals familiar with the applicant's academic and/or professional abilities. At least one letter must be from an individual at the last academic institution attended; one letter may be from a current or past employer.
5. Verbal, quantitative, and analytical writing scores on the GRE. All students must take the GRE and report scores to the Toulouse School of Graduate Studies prior to being admitted to graduate study in the department. The Department of Communication Studies does not have a provisional admission status for applicants who have not taken the GRE.
6. A research-based essay or writing sample from a junior- or senior-level undergraduate course or an honors thesis.

The department utilizes a holistic approach in evaluating candidates for admission to the graduate program in communication studies. In examining the materials submitted by applicants for admission, we seek a positive indication of potential success in the program. In addition to the materials above, the department may consider the applicant's potential to enhance the intellectual diversity of the department and program, potential to enhance the diversity of the university, and other factors that might provide evidence of potential success in the completion of

a master's degree with a major in communication studies.

Degree Programs

The department offers graduate programs leading to the following degrees:

- Master of Arts, and
- Master of Science, both with a major in communication studies.

The master's degree requires the completion of at least 36 hours of graduate course work.

There are three options for the degree:

1. 36 hours: 30 hours of course work in communication studies, 6 hours of thesis and oral examination;
2. 36 hours: 33 hours of course work in communication studies, 3 hours of COMM 5920 (Research Problems in Lieu of Thesis) and written and oral comprehensive examinations; or
3. 36 hours: 33 hours of course work in communication studies, 3 hours of COMM 5481 (Graduate Internship in communication studies) and written and oral comprehensive examinations.

The Graduate School has a foreign language requirement for the Master of Arts degree.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Dance and Theatre

Main Departmental Office
Radio, TV, Film and Performing Arts Building, 242
P.O. Box 310607
Denton, TX 76203-0607
(940) 565-2211

Dance Office
Stovall Hall, 180
(940) 565-3432

Web site: www.danceandtheatre.unt.edu

Lorenzo Garcia, Chair

Graduate Faculty: Cox, Cushman, Garcia, Grose, Hayes, Lakes, Smith, Wilson.

The Department of Dance and Theatre is dedicated to the profession of theatre arts and dance as central concerns of a civilized society and as primary methodologies in the education of its citizenry. Small groups of teachers and students, using as a foundation the artists and the artworks from both past and present and from all cultures and civilizations, collaborate in rehearsals and public performances derived from the finest possible classroom experiences. Scholarly and empirical research is combined with a high level of spontaneous creativity to develop the entire spectrum of theatre arts. Emphasis is placed on the impact between performing artists and appreciative spectators. Playwrights, actors, dancers, choreographers, directors, designers and technicians are taught to discover and to enhance their own creativity, to bear witness through their artistry to the richness of human life and to make artistic performance the means of educating the people who are present when the performance occurs.

These student artists also must learn to design and manage each of the technical and administrative crafts that constitute the business of theatre arts and dance in the 21st century. A person who can create and manage a successful theatre or dance organization can do the same in any field for which a few of the basic skills have been acquired. There is no technology — that of computers, for example, lasers or the film and video industries — that does not manifest itself in the craft of theatre and dance.

The Department of Dance and Theatre operates several facilities designed and equipped to generate, organize and conduct research in dramatic performance. The Stovall performance space, four dance studios, an acting/directing studio, a scene shop and costume shop, scenery and costume collections, and a department library indicate a commitment to providing the finest possible theatre and dance education.

Research

Faculty and students of the Department of Dance and Theatre engage in research through the development of artistic works and explorations of symbol transfer during the continuum of impact between spectators and dancers or actors. In addition, experimental and empirical studies are concerned with the phenomenology and the semiotics of dance and theatre arts activities as well as traditional methods of biographical, historical and literary research, and movement studies.

Topics on which research has been conducted in the department encompass actor/audience perceptions of a play in performance, actor/character relationships, directorial roles, British drama education, the theatre of Margo Jones, the educational theories of Bertolt Brecht, body-space and time-movement relationships, body language, and the social order and pragmatics of performer/audience communication.

This commitment to research and creativity in theatre arts and dance has generated continuing financial support from the Martha Gaylord-Tom Hughes Scholarship Program; the Katherine M. Altermann Scholarship Fund; the Ann Bradshaw Stokes Foundation; the Ralph B. Culp Endowment Fund; the Ed DeLatte Musical Theatre Scholarship; the Lucille Murchison Scholarships in Dance, Costuming and Technical Theatre; the Eugene Mills Dance Scholarships; and the Chun Hui Lee Dance Scholarships. Special funding and support has provided for the participation of the department in the 1990 Centennial production of *King Lear*; the hosting of the national American College Dance Festival; a multimedia event involving dance, music and sculpture at the Davis McLean Gallery in Houston in 1993; collaboration of theatre directing and the dramaturgy of a visiting Ibsen scholar in 1996; the performance of choreography selected by national adjudicators, to perform at the National American College Dance Festival in Washington, D.C., at the Kennedy Center, May, 1998; community support for a holiday production of "A Christmas Carol"; and the ongoing research promoting dance and theatre as central to education across the curriculum.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Economics

Main Departmental Office
Hickory Hall, 254
P.O. Box 311457
Denton, TX 76203-1457
(940) 565-2573
Web site: www.econ.unt.edu

Steven L. Cobb, Chair

Graduate Faculty: Cobb, Cooper, Hauge, Jewell, M. Kim, Y. S. Kim, Koelln, McPherson, Molina, Nieswiadomy, Rous, Tieslau.

The Department of Economics is actively involved in educational and research activities designed to produce graduates with the economic background and quantitative skills necessary to succeed in today's labor market or PhD programs in economics and related subjects. Employers in business, industry, education and government are in need of employees that can analyze and interpret data. Our graduates are well prepared to meet these needs, and the demand for our students is growing.

The department offers degrees in the following programs:

- Master of Arts, and
- Master of Science, both with a major in economics. Both programs are directed toward students who plan to obtain a PhD in economics;
- Master of Science degree with a major in economic research, which is directed toward students who plan careers in financial institutions, public utilities, large manufacturing organizations and government agencies; and
- Master of Science degree with a major in labor and industrial relations that provides a unique interdisciplinary approach for students interested in labor-related careers in private industry, labor or governmental organizations.

Many of the research and educational efforts of the department are coordinated through its affiliated units. These units include the Labor and Industrial Relations Institute, the Center for Economic Education, the Center for International Economic Studies and Research, and the Center for Environmental Economic Studies and Research.

Research

The Department of Economics is actively involved in a wide variety of research activities. The department supports the development of research teams

composed of faculty and students to enhance productivity and learning. The faculty's research fall into five broad categories: econometrics, applied microeconomics, applied macroeconomics, public economics and international economics.

In the area of econometrics, faculty research includes work in Markov-switching models, propensity score matching, dynamic panel data and panel unit root tests that allow for structural breaks. The faculty is also involved in the application of full information maximum likelihood estimation, limited dependent variable approaches and discrete factor analysis applied to international development, economic education, health care and consumer decisions.

In the field of applied microeconomics, faculty research is particularly diverse. Recent work has involved health economics topics such as the effects of prenatal care on birth weights, demand for abortions and demand for contraception. In the field of labor economics, research is ongoing on the employment effects of the Job Training Partnership Act and into work life estimates. A great deal of research is being conducted in environmental economics, including the determinants of biodiversity and water policy. In addition, the department has a number of faculty members interested in the emerging field of sports economics, with current research under way into demand for professional soccer, the possible existence of discrimination in Major League Baseball Hall of Fame voting, and into the determinants and effects of changes in the distribution of income among professional athletes.

Faculty research in the area of applied macroeconomics includes inquiries into exchange rate stability, patterns of foreign investment and optimal government size. In addition, applications of growth theory and endogenous growth models are being examined and refined. The impact of inflation on government policy multipliers in the U.S. is another area of macroeconomic research.

The economics department's faculty includes a number of international economists with areas of specialization in Latin America, Africa, Southeast Asia, Europe and the former Soviet Union. Research in the area of international economics has involved international income distribution, within-country effects of economic integration, immigration, the transition economies of Eastern Europe and the former Soviet Union, and small-scale enterprise development in developing countries.

The faculty of the Department of Economics conducts an aggressive search for external funding in support of research programs. Funding for these programs is provided by the National Science Foundation, the U.S. Department of State, the Texas Education Agency, the National Occupational Information Coordination Committee, the Texas Workforce Commission, the Texas Council on

Economic Education, the Environmental Protection Agency, USAID and the Soros Foundation.

Placement

The department has increased its emphasis on placement by designating one of the faculty as placement officer. The placement officer locates job openings, helps prepare students for interviews and develops internships for economics majors with private and public institutions in the Dallas–Fort Worth area.

Admission Requirements

The following admission requirements pertain to the Master of Arts and Master of Science with a major in economics, the Master of Science with a major in economic research and the Master of Science with a major in labor and industrial relations.

Applicants must first apply to and be admitted to the Toulouse School of Graduate Studies in order to be considered for admission to the graduate program in economics. Applicants are required to submit the following: full college transcripts; an acceptable grade point average (GPA); acceptable Graduate Record Examination (GRE) scores (both quantitative and analytical) or Graduate Management Admission Test (GMAT) scores; a personal essay; and, two letters of recommendation. Each of these requirements is described in more detail below.

A student can be admitted without provisions if the student's undergraduate GPA is at least 3.0. Provisional admission can be obtained if a student has an initial GPA of at least 2.8, and this student earns a GPA of at least 3.0 during the first 12 hours of courses.

Acceptable test scores must be submitted before a student can enroll for a second term/semester in the program. For information regarding acceptable GRE/GMAT scores, contact the graduate adviser in the Department of Economics. Applicants whose native language is not English are required to score at least 550 on the conventional TOEFL exam, or at least 213 on the computerized version of the exam.

Applicants must submit a personal essay of no more than 500 words summarizing their accomplishments and their motivation for obtaining a graduate degree in economics. When appropriate, applicants also should describe any special hardships they have overcome in order to reach this point in their academic career.

Two letters of recommendation should be solicited from people familiar with the applicant's academic potential. No special form is required. Letters should be sent directly to the graduate adviser in the Department of Economics.

Prerequisites

Although no specific undergraduate major is required, an appropriate background is desirable. Applicants for the Master of Arts with a major in economics, Master of Science with a major in economics, or Master of Science with a major in economic research must fulfill the following prerequisites or equivalents: 6 hours of Principles of Economics (ECON 1100 and 1110), 6 hours of Intermediate Economic Theory (ECON 3550 and 3560), Money and Financial Institutions (ECON 4020), Introduction to Econometrics (ECON 4870), 6 hours of Calculus (MATH 1710 and 1720) and an appropriate background in probability and statistics (ECON 5630 or MATH 4610 and 4650).

Applicants for the Master of Science with a major in labor and industrial relations must fulfill the following prerequisites or equivalents: undergraduate background prerequisites are 6 hours of basic macro and microeconomics and 3 hours of statistics. These prerequisites may be satisfied by taking ECON 5000 and 5630.

Degree Programs

The department offers graduate programs leading to the following degrees:

- Master of Arts with a major in economics;
- Master of Science with a major in economics;
- Master of Science with a major in economic research; and
- Master of Science with a major in labor and industrial relations.

All students must develop a degree plan in consultation with the graduate adviser.

Master of Arts and Master of Science with a Major in Economics

These are 36-hour programs, including an option for a 6-hour minor in a suitable field selected in consultation with the graduate adviser. MA and MS candidates are required to take ECON 5090 or 5100, 5330, 5340, 5600 and 5650. Candidates for the Master of Arts degree must meet the UNT foreign language requirement. Satisfactory completion of a written comprehensive exit exam plus a 6-hour master's thesis (ECON 5950) is required of all MA and MS candidates. ECON 5000, 5030, 5040 and 5630 are deficiency courses and do not count toward the 36 hours of course work.

Master of Science with a Major in Economic Research

Requirements of this program consist of a minimum of 36 semester hours of course work, including an option for a minor of 6 hours selected in consultation

with the graduate adviser. Candidates in this program are required to take ECON 5330, 5340, 5600 and 5650. All students must pass a written comprehensive exam. There are two options for the completion of this degree. The first option is to take 6 hours of supervised Research Problems in Lieu of Thesis (ECON 5920-5930). The second option is to take 6 hours of additional graduate economics courses.

Master of Science with a Major in Labor and Industrial Relations

The major academic objective of the program is to prepare students for careers in labor and industrial relations. The multifaceted nature of labor/industrial problems in today's complex society requires individuals knowledgeable in various interrelated disciplines for positions in private industry and government organizations.

The graduate program is unique as an interdisciplinary effort involving courses in business administration, computer science, economics, education, engineering technology, psychology and public administration. The exact course of study leading to the Master of Science with a major in labor and industrial relations will be related to the career or academic goal of the particular candidate.

The program requires satisfactory completion of a minimum of 36 hours of study and research beyond the bachelor's degree. All labor and industrial relations students must pass a written comprehensive exam. There are two options for the completion of this degree. The first option is to take 6 hours of supervised Research Problems in Lieu of Thesis (ECON 5920-5930). The second option is to take 6 hours of additional graduate economics courses. Limited numbers of graduate research assistantships are available in conjunction with funded research projects.

Research Centers

Center for Economic Education

Steven L. Cobb, Director

The Center for Economic Education, winner of the 2005 Albert Beekhuis Award for Centers of Excellence in Economic Education, is committed to making formal instruction in economics more accessible to the broad community of North Central Texas.

The center directs a professional program of study leading to the Master of Science degree with a major in economics and a support area in economic education. The concentration in economics education is a 36-hour program designed to prepare teachers for economics instruction in secondary schools and community colleges. The course of study is designed in consultation with the director of the center and the graduate adviser for the Department of Economics.

The center also maintains an in-service teacher training program of course offerings regularly scheduled during evening hours and in the summer. This program provides a mechanism for the in-service training of economics teachers in community colleges and secondary and elementary schools.

In addition to its regional instructional programs, the center develops instructional material, conducts research in economics education, maintains an instructional resource center and provides technical assistance in matters pertaining to instruction in economics.

Center for International Economic Studies and Research

David J. Molina, Co-Director

Michael A. McPherson, Co-Director

The Center for International Economic Studies and Research has three primary objectives. The first is to promote research through the acquisition of external funding for projects focusing on the socioeconomic problems of Asia, Africa, Central and Eastern Europe, and Latin America. The center also coordinates undergraduate and graduate programs within existing departments for students interested in problems of these regions. Beyond the campus, the center develops relationships with other institutions, both public and private, for the exchange of scholars and students as well as joint research and conferences.

Center for Environmental Economic Studies and Research

Michael Nieswiadomy, Director

The Center for Environmental Economic Studies and Research promotes the use of economic tools to analyze environmental issues. The center also coordinates undergraduate major programs within existing departments for students interested in environmental topics. The center cooperates with other universities, educational institutions and government agencies to promote research and seminars on environmental economics for the public.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of English

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David Holdeman, Chair

Graduate Faculty: Armintor, Baird, Benet, Bond, Chelliah, Cooke, Cukor-Avila, Duban, Foertsch, Hawkins, Holdeman, Kesterson, Larson-Hall, Marks, McCutchan, Menzer, Montler, Muyumba, Peters, Pettit, Raign, Rodman, Ross, Roy, Simpkins, Sims, Smith, Tait, Tanner, Upchurch, Vanhoutte, Velarde.

Introduction

The faculty of the Department of English is a very dynamic one with divisions devoted to English literature, creative writing, technical writing, linguistics and English as a second language (ESL).

The literature division offers a range of courses in British, American and world literature from the earliest periods to the present day. Courses in literary criticism and theory educate students in orthodox and postmodern modes of analysis, and various special topics courses offer students the opportunity to study literature and culture across conventional boundaries of period and discipline. The division prides itself not only on the quality of its teaching, but also on its international scholarly reputation. Professors routinely publish their work in top academic journals and, increasingly, in monographs and editions published by university presses. The department also sponsors two literature journals, *Studies in the Novel* and *American Periodicals*. The department is also home to two on-going critical editions, *The Works of Tobias Smollett* (University of Georgia Press) and the *Selected Works of Eliza Hawood* (Pickering & Chatto) as well as to the reprint-series, *British Ideas and Issues, 1660-1820* (AMS Press).

The creative writing faculty consists of several nationally recognized writers, qualified not only as creative practitioners, but also as mentors and critics. Their books have been published by Dutton, BOA Editions, University of Georgia Press, Sarabande Books and other presses. Stories, essays and poems by faculty regularly appear in such journals as *The Paris Review*, *Story*, *The Yale Review*, *Denver Quarterly*, *The Ohio Review*, *The Georgia Review* and *Creative Non-Fiction*. One of

the distinctive strengths of graduate creative writing studies at UNT lies in how closely the literature and creative writing faculties work together, exploring ways in which knowledge of diverse literary traditions facilitates the development of one's own craft. In addition to its form and theory classes in fiction and poetry and its graduate workshops in fiction, poetry, creative non-fiction and screenwriting, the department offers a creative thesis option (as part of its MA in creative writing) and a creative dissertation option (as part of its PhD in English). Each year the university sponsors a Visiting Writer Series in which students may attend both readings and pedagogical sessions with distinguished authors. Students also have opportunities to pursue editorial positions with the department's national literary journal, *American Literary Review*, and with the local student-run journal, *North Texas Review*, which in turn sponsors its own reading series involving faculty and students.

The University of North Texas offers a graduate program in technical writing. Students graduating with a master's degree with a major in technical writing have enjoyed a 100 percent job placement rate since 1990. These graduates work in a variety of industries such as manufacturing, electronics, computer software and hardware, airlines and telecommunications. Through the program, students have the opportunity to work with faculty who not only are highly qualified teachers, but are also published scholars and consultants. The faculty have published in major journals, such as the *Technical Writing Quarterly*, *Technical Communication: Journal of the Society for Technical Communication* and *Journal of Business Communication*. They have also published books on technical communication and write for publishers such as Houghton Mifflin and Wadsworth. Our faculty also work as consultants for companies across the United States, such as IBM, SBC, Ericsson and Centex. The technical writing program at UNT offers students the opportunity to gain the theory and practice to work as technical communicators in any industry.

The linguistics division offers the MA degree both in linguistics and in English as a second language and a graduate academic certificate in Teaching English to Speakers of Other Languages (TESOL). All of the faculty in the division are well-known scholars with national and international reputations. They are uniquely qualified not only across the core areas of linguistics (phonetics/phonology, morphology, syntax, semantics), but also in their various specializations: Native American linguistics, Southeast Asian linguistics, linguistic theory, language acquisition, sociolinguistics and applied linguistics. Students seeking the MA in linguistics receive the kind of personal attention and support that has invariably resulted in subsequent placement into PhD programs of the highest caliber. Those seeking the MA in ESL likewise

receive personal attention; the extremely high placement rate of the division's MA/ESL graduates speaks for itself.

Degree Programs

The Department of English offers the following degrees:

- Master of Arts with a major in English,
- Master of Arts with a major in creative writing,
- Master of Arts with a major in technical writing,
- Master of Arts with a major in English as a second language (ESL),
- Master of Arts with a major in linguistics, and
- Doctor of Philosophy with a major in English.

The Department of English also offers a graduate academic certificate in Teaching English to Speakers of Other Languages.

Master of Arts

Admission Requirements and Procedures

When applying to the Master's degree with a major in English, creative writing, technical writing, linguistics or ESL, applicants complete two parts. The applicant first files an application with the Toulouse School of Graduate Studies (available on the UNT Graduate School web site). The applicant then submits the following to the Department of English:

- signed letter of application;
- 300–500 word personal statement describing the applicant's interests, career plans and purpose in working toward an MA; and
- current vita or resume

Applicants for the MA with a major in creative writing do not submit a current vita or resume. Instead, these applicants must submit a writing portfolio consisting of a writing sample (10 pages of poetry or 15–25 pages of fiction).

To be eligible for admission to the MA with a major in English, creative writing, technical writing, linguistics or ESL, applicants must have at least a 3.0 GPA on the last 60 hours of undergraduate semester hours prior to receiving a bachelor's degree or a 2.8 GPA on all undergraduate work. The applicant must also submit scores from the Graduate Record Examination (GRE). The student must have taken the examination prior to or during the first term or semester of graduate study. A student who fails to comply with this requirement will not be allowed to re-register as a master's degree candidate with a major in English, creative writing, technical writing, linguistics or ESL. Applicants accepted into the MA with a Major in English or creative writing have presented verbal scores ranging from the 50th to the 98th percentile and analytical writing scores ranging from 3.0 to 6.0. Applicants accepted into the MA with a major in technical writing, linguistics and ESL have

presented verbal scores ranging from the 50th to the 98th percentile and analytical writing scores ranging from 4.0 to 6.0. Applicants whose native language is not English must also submit a score on the TOEFL examination. Scores on the computer-based TOEFL examination have ranged from 231 to 255.

Applicants for the MA with a major in English or creative writing must have completed up to 24 hours of undergraduate course work in English. The Chair of Graduate Studies will determine the prerequisite course work based on the applicant's educational background and area of scholarly interest. Applicants for the MA in a major in technical writing, linguistics or ESL must have completed up to 9 hours of undergraduate course work in technical writing, linguistics or ESL. The Chair of Graduate Studies will determine the prerequisite course work based on the applicant's educational background and area of scholarly interest.

Financial Support

Beginning full-time students who meet all qualifications may apply for financial assistance in the form of the academic assistantship; those who have already completed 18 graduate hours in an area offered by the Department of English may apply for a teaching fellowship. Applications for both may be requested from the department by telephone at (940) 565-2050, e-mail at englgrad@unt.edu, or the department web site at www.engl.unt.edu.

Foreign Language Requirement

All candidates pursuing a master's degree in the Department of English must have a reading knowledge of at least one foreign language. As evidence of such foreign language, a student may present the results of a standardized examination or have completed the sophomore year of a foreign language, or the equivalent, provided that the grade point average on all language courses is 2.75 or higher. A student who has permission to write a thesis or to enroll in ENGL 5920-5930 will not be allowed to register for the courses until the foreign language requirement has been met.

Degree Plan Requirement

During the second term/semester of graduate work toward the Master of Arts degree, the student is required to file a degree plan in the office of the chair of graduate studies in English. Students should obtain an appointment as soon as possible after the registration period during their second term/semester's work.

Comprehensive Examination

Candidates for the MA with majors in English, creative writing and technical writing and candidates for the MA with majors in linguistics and ESL who chose Option III must pass the master's comprehensive examination. Candidates for the MA with a

major in linguistics who choose Option I or Option II do not take the master's comprehensive examination. This examination is administered by the graduate committee of the Department of English and is given every February, June and October. Students must register for this examination at the appropriate time in the office of the chair of graduate studies in English. Students should consult with the graduate adviser early in their programs to learn of the specific nature of the comprehensive examination. The comprehensive examination may be taken twice. If the candidate fails the examination on both occasions, then permission for any retake of the examination must be granted by the graduate committee.

Candidates for the MA program in linguistics who choose Option I or II must pass an oral defense of the written project prospectus as well as a defense of the completed project (thesis or two scholarly papers).

Application Checklist

The following materials should be sent directly to the Toulouse School of Graduate Studies.

1. A completed graduate application form with the intended major indicated in the appropriate blank.
2. Official Graduate Record Examination (GRE) scores sent from the Educational Testing Service. Candidates applying for all MA programs in English must take the GRE verbal and analytical writing sections.
3. Official scores from the Test of English as a Foreign Language (TOFEL) examination for students whose native language is not English.
4. Official transcripts for all previous undergraduate and graduate academic work.
5. For the major in creative writing only, a writing samples portfolio consisting of a creative writing sample (10 pages of poetry or 15–25 pages of fiction) and a critical writing sample (a paper of 10–20 pages).
6. For the major in creative writing only, admission is granted at the beginning of each fall and spring term/semester. The deadlines for application are as follows:

- January 15 for admission in the fall term/semester, and
- October 15 for admission in the spring term/semester.

Candidates also applying for an academic assistantship or teaching fellowship should send the following directly to the Department of English:

- A teaching fellowship/academic assistantship application.
- Three letters of recommendation that assess the candidate's potential both as scholar and as teacher.

- Writing samples comprising two polished pieces (e.g., a research paper). Not required for candidates applying to the major in creative writing.
- A taped conversation in English for candidates who are non-native speakers of English.

Master of Arts with a Major in English

Course Requirements

1. Required courses:

- ENGL 5750, Bibliography and Methods of Research in Literature, or LING 5070, Bibliography and Methods of Research in Linguistics/ESL
- ENGL 5760, Scholarly and Critical Writing, or LING 5590, Linguistics and Literature, or ENTW 5580, Theories of Composition
- ENGL 5810, Studies in Literary Criticism, or LING 5040, Principles of Linguistics, or ENGL 5170, Rhetorical Theory

2. Area courses (non-thesis option): in addition to the required courses listed above, the student who is not given permission to write a thesis or to enroll for ENGL 5920-5930 (Research Problems in Lieu of Thesis) must complete 27 semester hours of additional course work.

3. Area courses (thesis option): the student who is given permission to write a thesis or to enroll in ENGL 5920-5930 will complete 21 hours of course work (including 6 hours of thesis) in addition to the required courses listed above. Course work to complete the additional requirements may be taken in the traditional areas of literature, writing or linguistics, as approved by the chair of graduate studies. No student who has permission to write a thesis will be allowed to register for the courses until the foreign language requirement has been met.

Master of Arts with a Major in Creative Writing

Course Requirements

All students must complete 36 hours of course work as follows:

Core Areas

3 hours:

- ENGL 5810, Studies in Literary Criticism

6–12 hours:

- ENGL 5420, Creative Writing: Poetry
- ENGL 5820, Creative Writing: Prose Fiction
- ENGL 5162, Creative Writing: Essay

3 hours:

- ENGL 5140, Form and Theory: Poetry
- ENGL 5145, Form and Theory: Prose

Allied Areas

9–15 hours:

- To be chosen from among various ENGL 5000- or 6000-level courses related to American or British literature.

Cognate Area

0–3 hours:

- Anthropology; Dance and Theatre; Radio/Television/Film; History; Linguistics; Music; Philosophy/Religion Studies; Political Science; Psychology; Sociology; Foreign Languages; Visual Arts; Women's Studies

Thesis

6 hours:

- ENGL 5950, Master's Thesis

Thesis Requirement

The candidate for the MA with a major in creative writing must write a thesis. A student is permitted to write a thesis only with the permission of the chair of graduate studies and a major professor. No student who has permission to write a thesis will be allowed to register for the courses until the foreign language requirement has been met.

Master of Arts with a Major in Technical Writing**Course Requirements****Option I: 36-Hour Program with Written Examination**

Core Courses, 15 hours selected from the following:

- ENTW 5185, Principles of Technical Writing
- ENTW 5190, Style and Technical Writing
- ENTW 5195, Editing Technical Documents
- ENTW 5280, Designing Technical Documents
- ENTW 5285, Technical Presentations

Topics Courses, 6 hours selected from the following:

- ENGL 5170, Rhetorical Theory
- ENTW 5180, Professional Writing
- ENTW 5191, Technical Writing and the Computer
- ENTW 5550, Studies in the Teaching of Technical Composition

Practicum, 6 hours:

- ENTW 5640, Practicum in Technical Writing

Cognate Field: 9 hours:

- 9 hours of graduate-level courses
- Before registering in these courses, students must seek the approval in advance from the Director of Technical Writing

Comprehensive examination

Option II: 30-Hour Program with Thesis

Core Courses, 15 hours selected from the following:

- ENTW 5185, Principles of Technical Writing
- ENTW 5190, Style and Technical Writing
- ENTW 5195, Editing Technical Documents
- ENTW 5280, Designing Technical Documents
- ENTW 5285, Technical Presentations

Topics Courses, 3–6 hours selected from the following:

- ENGL 5170, Rhetorical Theory
- ENTW 5180, Professional Writing
- ENTW 5191, Technical Writing and the Computer
- ENTW 5550, Studies in the Teaching of Technical Composition

Thesis, 6 hours:

- ENTW 5950, Master's Thesis

Cognate Field, 6–9 hours:

- 6–9 hours of graduate-level courses
- Before registering in these courses, students must seek the approval in advance from the Director of Technical Writing

Comprehensive examinations and oral prospectus defense

Thesis Requirement

The candidate for the MA degree with a major in technical writing must write a thesis under Option II. A student is permitted to write a thesis only with the permission of the chair of graduate studies and a major professor. No student who has permission to write a thesis will be allowed to register for the courses until the foreign language requirement has been met.

Master of Arts with a Major in Linguistics**Course Requirements****Option I: 30-Hour Program with Thesis**

- LING 5300, Phonology
- LING 5310, Syntax
- 18 additional hours of graduate-level linguistics courses
- Master's thesis (including 6 hours of LING 5950)
- Oral comprehensive examination and prospectus defense

Option II: 30-Hour Program with Scholarly Papers

- LING 5300, Phonology
- LING 5310, Syntax
- 18 additional hours of graduate-level linguistics courses
- Two original scholarly papers (6 hours of LING 5920-5930)
- Oral comprehensive examination and prospectus defense

Option III: 36-Hour Program with Written Exam

- LING 5300, Phonology
- LING 5310, Syntax
- 30 additional hours of graduate-level linguistics courses
- Written comprehensive examination

Master of Arts with a Major in English as a Second Language**Course Requirements****Option I: 30-Hour Program with Thesis**

- LING 5060, Second Language Acquisition
- LING 5080, Teaching English as a Second Language
- LING 5300, Phonology
- LING 5310, Syntax
- LING 5340, Practicum in Teaching English as a Second Language
- 9 additional hours of graduate-level linguistics courses
- Master's thesis (including 6 hours of ENGL 5950)
- Oral comprehensive examination and prospectus defense

Option II: 30-Hour Program with Scholarly Papers

- LING 5060, Second Language Acquisition
- LING 5080, Teaching English as a Second Language
- LING 5300, Phonology
- LING 5310, Syntax
- LING 5340, Practicum in Teaching English as a Second Language
- 9 additional hours of graduate-level linguistics courses
- Two original scholarly papers (6 hours of LING 5920-5930)
- Oral comprehensive examination and prospectus defense

Option III: 36-Hour Program with Written Exam

- LING 5060, Second Language Acquisition
- LING 5080, Teaching English as a Second Language
- LING 5300, Phonology
- LING 5310, Syntax
- LING 5340, Practicum in Teaching English as a Second Language
- 21 additional hours of graduate-level linguistics courses
- Written comprehensive examination

Thesis and Scholarly Papers Requirement

A student is permitted to write a thesis or scholarly papers only with the permission of the chair of graduate studies and a major professor. Before registering for thesis hours (LING 5950) or problems in lieu of thesis (LING 5920 and LING 5930), a student must have met the foreign language requirement.

Doctor of Philosophy with a Major in English**Admission Requirements and Procedures**

Admission to the doctoral program in English is highly competitive. At the beginning of each academic year, no more than 15 students are admitted. Admission is granted only at the beginning of each fall and spring terms/semesters. The deadlines for application are as follows:

- January 15 for admission in the fall term/semester, and
- October 15 for admission in the spring term/semester.

All applicants must meet the following minimum standards.

1. **Graduate Record Examination.** Applicants must submit scores on the Graduate Record Examination (GRE) verbal and analytical sections. Applicants accepted have presented verbal scores ranging from the 69th to the 99th percentile and analytical writing scores ranging from 4.0 to 6.0. The student must also meet GRE requirements established by the Graduate Council and must comply with general regulations concerning the GRE in relevant sections of this bulletin. Applicants whose native language is not English must meet the GRE requirements above and present a score on the TOEFL. Applicants accepted have presented verbal computer-based test scores ranging from 233 to 293.
2. **Academic record.** The applicant must have at least a 3.5 overall GPA on all undergraduate semester hours of work prior to receiving the bachelor's degree. An applicant who has completed any graduate-level work must have at least a 3.5 overall GPA on such graduate work.
3. **Toulouse School of Graduate Studies admission.** The applicant must meet the qualifications for admission set by the Toulouse School of Graduate Studies of the University of North Texas.

To apply to the doctoral program in English, applicants must submit all of the following:

- Toulouse School of Graduate Studies application for admission along with required transcripts and GRE/TOEFL examination reports.
- Letter of intent. The letter should explain why the applicant wants to work toward a Doctor of Philosophy with a major in English.
- Portfolio of writing samples. The portfolio must include at least two substantial writing samples, one of which must be an example of critical writing. Those interested in pursuing a creative dissertation must also submit samples of their creative writing (10 pages of poetry or 15–25 pages of fiction).
- Three confidential letters of reference that assess the applicant's potential contribution to the discipline.

All application materials may be requested from the department by telephone, e-mail or web site. If you require assistance in filling out the application, or if you have questions about the degree or application process, please contact the chair of graduate studies in English at (940) 565-2115 or e-mail englgrad@unt.edu.

Financial Assistance

Full-time students who meet all qualifications for both the doctoral program and for instructional positions will be offered employment as graders, academic assistants or teaching fellows in the Department of English, thus receiving financial support for a five-year period in the pursuit of the doctoral degree. Financial support will normally not be awarded beyond the fifth year of graduate studies. Students are not required to perform any instructional services if they do not want to receive this form of financial aid. Part-time students will normally be employed elsewhere, but, if qualified, they are not precluded from performing instructional services at some time during their studies.

Scholarships may be awarded to incoming graduate students who show unusual promise as indicated by their application credentials. These will normally be one-year scholarships for students not yet eligible to be teaching fellows. Similar scholarships may also be awarded to students in their fifth year, principally to help defray the costs of producing a dissertation.

Residence

The student must meet the doctoral residence requirement described in the general section of this bulletin dealing with requirements for the doctoral degree.

Foreign Language Requirement

Students must demonstrate a reading knowledge of at least one foreign language other than his or her own native language. The student will work with his or her major adviser to decide what foreign language is most appropriate for his or her graduate program and scholarly interests. Some advisers may require additional foreign language work. The student's adviser may also set specific requirements based on individual and scholarly needs. The student may demonstrate reading knowledge of a single foreign language in any of the following ways: (1) by showing proof of completion of 12 hours (through the sophomore level) of a single foreign language at the undergraduate level or graduate level with a minimum GPA of 3.0 via transcript(s) or (2) by passing the appropriate competency test as administered by the Department of Foreign Languages and Literatures at UNT.

Admission to Candidacy

After admission to PhD study, a graduate student will be accepted for candidacy for the PhD after accomplishing all of the following:

1. successful completion of all required courses, including foundation and distribution requirements, and elective courses;
2. successful completion of foreign language requirements; and
3. successful completion of the PhD examinations.

Curriculum

All students in the doctoral program must complete 90 semester hours of graduate work beyond the bachelor's degree.

Students must select a faculty adviser and determine a degree focus within the first 27 hours of course work.

The student will focus in one or more of the following areas:

- Medieval literature
- Renaissance literature
- Restoration/18th-century literature
- 19th-century British literature
- 20th-century British literature
- American literature
- Contemporary literature
- Creative writing
- Poetics
- Persuasive and Technical Writing

Students will take courses in the following areas:

- Required courses (30 hours)
- Electives (36 hours)
- Directed research (12 hours)
- Dissertation (12 hours)

Required Courses (30 hours total)

Students will satisfy the required courses by taking foundation courses and distributed requirements. Students must take foundation courses within the first three terms/semesters.

Foundation Courses (12 hours)

- Scholarly and Critical Writing
- Studies in the Teaching of Composition
- Bibliography and Methods of Research in Literature
- Literary Criticism and Theory

Distributed Requirements (18 hours)

- 2 courses in British Literature, pre-1660
- 2 courses in British Literature, post-1660
- 1 course in American Literature, pre-1900
- 1 course in American Literature, post-1900

Electives (36 hours)

Students take 36 hours of elective courses (from within the Department of English). Students are

limited to two Special Problems courses, except by permission of the chair of graduate studies in English and the student's major adviser.

Directed Research (12 hours)

The student must take 12 hours of Directed Research (ENGL 6941 and 6942). With permission of the student's major adviser and the chair of graduate studies in English, the student may take up to 6 hours of organized classes in lieu of Directed Research. The student may not enroll in Directed Research until the PhD examination and the foreign language requirements have been met.

Dissertation (12 hours)

The student must take 12 hours of dissertation (ENGL 6950). The student may not enroll in dissertation until the PhD examination, the foreign language requirement and the directed research requirements have been met.

PhD Qualifying Examination

The student must take the PhD qualifying examination during the last term/semester of organized course work. The PhD examination will be administered by the student's dissertation committee in either November or in April.

The PhD examination may be taken twice. If the student fails the examination on both occasions, then permission for any retake of the examination must be granted by the graduate committee.

The student must pass the following:

- one four-hour written comprehensive examination in the primary area,
- one four-hour written examination in any other secondary area of the student's choice, and
- one two-hour oral examination.

The student must pass these examinations before being permitted to register for directed research and dissertation hours.

The student's major adviser and committee will determine the nature of the examinations and prepare and administer them. The student will be expected to have expert knowledge of the primary area and general comprehensive knowledge of the secondary area.

After the student passes the written comprehensive examinations in both the primary and the secondary area, the student will then take one two-hour oral examination. The oral examination will touch on all of the written exams, both in the primary and in the secondary area.

Dissertation Prospectus

Each student is required to provide an extended and detailed dissertation prospectus to his or her dissertation committee. The prospectus, developed while the student is enrolled for ENGL 6941 and/or 6942,

must be turned in to the dissertation committee no later than the end of April of the fourth year.

The dissertation prospectus must be approved by all members of the student's dissertation committee. The approved prospectus, along with a prospectus cover sheet and approval form, must be turned in to the chair of graduate studies. The faculty committee that approves the prospectus must be the same as the dissertation committee. Any changes in the constitution of the dissertation committee must be approved by the graduate committee. Students may not enroll for dissertation until the prospectus has been approved by the dissertation committee and turned in to the chair of graduate studies.

Dissertation Requirement

1. A dissertation is required of all candidates for the doctorate. The dissertation must be a work of original research and writing justifying the awarding of the doctoral degree. Students can enroll for dissertation credit only when

- the dissertation prospectus has been approved by all members of the student's dissertation committee, and
- the student has satisfied the foreign language requirement and the PhD examination requirement.

2. Students enrolled for dissertation credit must comply with the continuous enrollment policy set forth in appropriate sections of this bulletin.

3. The dissertation committee is composed of three faculty members. The dissertation will be directed by a qualified faculty member whose area of expertise is in the student's major area. Two other faculty members from the Department of English constitute the rest of the dissertation committee. Area advisers and the chair of graduate studies will assist students in the selection of the dissertation committee.

4. When the dissertation is completed and has received the preliminary approval of the dissertation committee, the dissertation director will schedule the final comprehensive examination (dissertation defense) and notify the chair of graduate studies in English and the dean of the Toulouse School of Graduate Studies of the date and time of the examination. The dissertation will be submitted to the chair of graduate studies in English only after this examination has been passed. After the approval of the chair of graduate studies in English has been secured, the dissertation will then be transmitted to the graduate dean's office and finally approved by the graduate dean.

5. Instructions for submitting the dissertation may be obtained from the graduate dean's office. Students should consult the Academic Calendar in the annual *Graduate Catalog* for deadlines.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The “Course and Subject Guide,” found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Foreign Languages and Literatures

Main Departmental Office
Language Building, 101

P.O. Box 311127
Denton, TX 76203-1127
(940) 565-2404

Web site: www.forl.unt.edu

Marie-Christine Koop, Chair

Graduate Faculty: Anderson, Beckman, Bustinza, Jato, Kaplan, Koop, Lee, López-Calvo, Marrero, Nahrgang, Nash, Nelson, Sánchez-Conejero, Sirvent, Williams, Yoon.

The Department of Foreign Languages and Literatures offers graduate programs in the following areas:

- Master of Arts with majors in French and Spanish.

Graduate students may pursue minors in French or Spanish.

Graduate students have the opportunity to use the target language in their courses at UNT and can participate in the Study Abroad Program. French majors, through the French Co-op Program, have the opportunity to spend a year in France with a teaching position in English in Longuenesse or Tours. Summer study programs are also available at the University of Strasbourg for French, and in Valencia for Spanish.

French and Spanish Summer Institutes (summer MA program)

Following the immersion principle, every June the French and Spanish Summer Institutes offer two graduate courses over a four-week period divided into two two-week sessions. This program enables graduate students to earn an MA in French or Spanish over four summers of course work supplemented by additional courses taken during the fall or spring term/semester,

transfer credits and/or study in France or Spain. All students may combine courses taken during the fall and spring terms/semesters with courses taken during the French or Spanish Summer Institute. Advanced undergraduate students may register for the French or Spanish Summer Institute and receive credits at the 4000 level.

Research

Research conducted by departmental faculty members in Spanish literature includes second-language acquisition, cultural studies, Spanish poetry, contemporary Spanish-American literature, Spanish literature of the Golden Age, literary theory and women's studies. Spanish literature of the 19th and 20th centuries is another area of interest. Faculty in the field of French specialize in second-language acquisition, culture and civilization, literature of the 16th, 19th and 20th centuries, literary theory, women's studies, and Québec. Research in German literature includes German and comparative literature of the Baroque and German literature of the 18th, 19th and 20th centuries.

Admission and Degree Requirements

A student must have completed at least 12 semester hours of advanced work in the field concerned to be admitted into the graduate program. Applicants are evaluated following a holistic review which includes several factors none of which are given greater weight than any of the others: undergraduate GPA, GRE test scores, a 250-word statement in the target languages, a one-page curriculum vitae and completion of 12 hours of advanced undergraduate course work in the target language. Undergraduate students anticipating entrance into graduate work in French or Spanish should take the GRE in the final term/semester of their senior year. In the event that the examination has not been taken before application is made, the student should take it no later than the following administration.

The applicant must demonstrate a reading knowledge of a second foreign language. Completion of a course in the second language at the 2050 level or higher, with a grade of at least B, will be regarded as proof of adequate reading ability.

The applicant has the choice of the following programs: (a) 36 semester hours, including 6 hours of thesis; at least 24 hours of course work must be completed in the major; a minor of 6 hours is permitted; or (b) 36 hours of course work, without thesis; at least 30 hours must be earned in the major; a minor of 6 hours is permitted.

A master's degree candidate in French or Spanish must take a written comprehensive examination in the major field.

With the approval of the chair of the department, the master's thesis may be written in the foreign language (French or Spanish) of the student's field of graduate study.

Courses of Instruction

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Course and Subject Guide

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Department of Geography

Main Departmental Office
Environmental Education, Science and Technology
Building, 210

P.O. Box 305279
Denton, TX 76203-5279
(940) 565-2091

Web site: www.geog.unt.edu

Paul Hudak, Chair

Graduate Faculty: Acevedo, Dong, Ferring, Hudak, Lyons, McGregor, Nagaoka, Oppong, Rice, Williams.

Students in the Department of Geography successfully prepare for active careers in diverse employment settings in business, government, research and teaching. The Master of Science degree with a major in applied geography allows students to develop their education and training in both physical and human geography, through a broad curriculum, research and teaching experience, and also through numerous internship opportunities with local corporations, water and land use agencies, and health care systems, as well as city, state and federal governments and agencies. The MS degree prepares graduates for mid-upper level entry positions as well as for pursuit of a doctoral degree in geography or an allied discipline. Formal interactions with the research and teaching faculties of environmental sciences and the Texas College of Osteopathic Medicine promote substantial crossover between disciplines for students in both programs. The master's degree is also earned by many students that teach or plan to teach at the primary or secondary level. Inclusion of UNT's archaeology curriculum in this department enables students to gain interdisciplinary training, with emphasis on geoarchaeology, zooarchaeology, spatial and quantitative analysis, and various techniques for dating or materials characterization.

Research

Faculty in the Department of Geography are engaged in research activities that cover a broad range of topics in physical and human geography, as well as archaeology. This diversity of research reflects the composition of our faculty. The department collaborates fully with the Institute of Applied Sciences, the Department of Mathematics, the Department of Computer Science and Engineering and the Department of Physics, among others, in interdisciplinary projects.

Research areas include medical geography and health care delivery systems, groundwater monitoring and remediation, solid waste disposal, water resources management, locational conflicts, urban/economic geography, geographic information systems, remote sensing and digital image processing, meteorology, environmental modeling, ecosystems management, coastal and fluvial geomorphology, soils geomorphology, climate modeling, Quaternary geology and paleoenvironments, geoarchaeology, environmental archaeology, island biogeography, zooarchaeology, spatial modeling and spatial/environmental aspects of recreation, cultural resources management and natural hazard assessment. In addition to research activities in the southern mid-continent region, students have recently participated in our faculty's research in South America, the Caribbean, New Zealand, Thailand, Portugal, Spain, Mexico, Ghana and the Republic of Georgia.

Recent support for research includes grants from the National Science Foundation, the Environmental Protection Agency, the U.S. Army Corps of Engineers, the Texas Natural Resources Information Service, the Texas Air Quality Control Board, the National Geographic Society and the Leakey Foundation.

The **Center for Spatial Analysis and Mapping (CSAM)** is housed in the Environmental Education, Science and Technology Building (EESAT). This center provides instructional and research support in the areas of geographic information systems (GIS), computer cartography, spatial analysis and environmental modeling. The facility serves undergraduate and graduate students majoring in geography and in environmental science. Beyond its immediate instructional and research mission, CSAM is envisioned as the facility to provide GIS support for institutional planning and facilities management at UNT. The department also collaborates with environmental sciences in the operation of the Center for Remote Sensing and Land Use Analysis for instruction and research.

The **Center for Environmental Archaeology** maintains fully equipped laboratories in archaeology, geoarchaeology and zooarchaeology. These facilities include instrumentation for analysis of sediments, soils, petrographic thin sections, lithic and ceramic artifacts. The zooarchaeology laboratory houses over 700 curated skeletons of recent vertebrates as well as large collections of Holocene and Pleistocene

archaeological faunas. Extensive research includes current projects of Upper and Middle Paleolithic sites in Portugal and Ukraine, the 1.8 million year-old site of Dmanisi in the Republic of Georgia and numerous sites dealing with the human colonization of New Zealand.

Degree Program

The department offers a graduate program leading to the following degree:

- Master of Science with a major in applied geography.

Admission Requirements

Application for admission to the Toulouse School of Graduate Studies is made through the graduate school. Concurrently, a letter of intent should be sent directly to the Department of Geography's graduate adviser. This letter should briefly summarize the applicant's background, specific interests in the field of geography and future career plans. Three letters of recommendation also are required.

Applicants normally should have the equivalent of an undergraduate major in geography from an accredited university with an overall undergraduate grade point average (GPA) of at least 2.8 or a 3.0 GPA during the last 60 undergraduate semester hours. The undergraduate degree should include exposure to basic quantitative analysis techniques in geography also. Students whose undergraduate major is not geography may be required to take undergraduate leveling courses. Total leveling course requirements will not exceed 9 semester credit hours. In addition, the student's GRE score will be evaluated as part of the admission process. Contact the department or the Toulouse School of Graduate Studies for information concerning acceptable admission test scores.

Degree Programs

The Master of Science degree with a major in applied geography has a minimum requirement of 36 hours of academic credit, which includes either 6 hours for thesis preparation, or 6–9 hours of individual study and/or internships for non-thesis options. Students using the thesis option must defend their completed thesis, while those in the non-thesis option must pass a final examination. All students must take a 1-hour graduate seminar and two 3-hour research techniques courses: GEOG 5110, Research Design and Geographic Applications, and GEOG 5190, Advanced Quantitative Techniques. Also, students must complete 6 hours of work in a cognate field unless they elect to follow the environmental archeology track. For the remaining course work, selections may be made from any or all of five topical areas: geographic information systems (GIS) and techniques, water resources, urban environments, medical geography and archaeology.

Individual student's degree plans and the composition of the student's committee are defined in the first term/semester of attendance in consultation with the student's major professor and the graduate adviser. Final written examinations are taken at the end of course work, including internships, for non-thesis students. An oral defense of the thesis is administered after the major professor and the thesis committee members have approved the written version of the thesis. As an option, students may elect to follow one of the specific degree tracks currently offered: environmental archaeology, urban environments management, water resources management or applied GIS.

Environmental Archaeology

Archaeology faculty in the geography department, in cooperation with the graduate program in anthropology, direct graduate students in pursuit of either the MS in geography or the MS in interdisciplinary studies. The focus of this program is to give students a strong foundation in selected areas of research expertise that will prepare them for entry into research positions or doctoral programs in archaeology. Two principal areas of training are geoarchaeology and zooarchaeology, which derive strength from the faculty and fine laboratory/collections resources in the Center for Environmental Archaeology. In addition to core requirements in geoarchaeology or zooarchaeology, students complete two areas of specialization selected from the following areas: GIS and remote sensing, spatial and quantitative analysis, instrumental techniques (e.g., SEM, EDX, PIXE, stable isotopes, petrography), or zoology and ecology.

Urban Environments Management

This degree track prepares students to assume a vital role within the structure of a city government, coordinating the activities of various city departments related to environmental legislation. In addition to the normal requirements, students select courses from content areas including urban environments, environmental science, city government structure and environmental law and policy. Each student completes an internship with a local city, using that experience as a focus for preparation of the thesis. This track has been developed in response to the increasing need for persons to coordinate different programs in city government, to liaison with governmental agencies, to interact with contracted environmental engineers and to bring a philosophy of sustainable environments to the planning process.

Water Resources Management

This track prepares geography students to assume active roles in addressing the critical issues of water supplies and water quality. Students follow a curriculum balanced among technical, scientific and political aspects of water resources management, preparing

them to complete either a thesis or an internship. Courses are selected from the following topical areas: techniques, geography/geology, environmental science and environmental policy. Students completing this degree track gain positions with local and regional governments, federal and state regulatory agencies, engineering firms and regional water districts.

Applied Geographic Information Systems

This track prepares students to meet the growing demand for GIS professionals. But rather than a strictly technical preparation, students acquire the foundation in applied geography that qualifies them to play vital roles in planning, policy and implementation in chosen areas such as urban geography, economic/business development, environmental science and medical geography. Courses for this track are selected from the following groups: GIS technology, GIS applications, topics/cognate fields, real estate/marketing, public health administration, environmental science and applied economics.

Certification in GIS

A five-course sequence fulfills the requirements for certification in GIS. These courses are Introduction to GIS, Intermediate GIS, Advanced GIS, Computer Cartography and an applications-based elective from a list of geography and computer science courses. This certification may be acquired within the MS in geography, but is also open to graduate students in other programs, non-degree seeking students, or outside teachers or professionals who wish to add GIS capabilities to their present careers.

Financial Assistance

The Department of Geography extends some form of financial assistance to the majority of our graduate students. Our substantial enrollments in undergraduate introductory classes in geography, geology and archaeology support large numbers of teaching assistants and tutors. In addition, we offer students research assistantships and departmental scholarships. Many of these forms of assistance qualify students for an out-of-state tuition waiver, significantly reducing the student's education costs. The department also works closely with the office of student financial assistance and the international studies office to help students gain scholarships, student loans and other forms of assistance.

Courses of Instruction

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Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of History

Main Departmental Office
Wooten Hall, 225

P.O. Box 310650
Denton, TX 76203-0650
(940) 565-2288
Fax: (940) 369-8838

Web site: www.hist.unt.edu

Adrian R. Lewis, Chair

Graduate Faculty: Calderon, Campbell, Chet, De Carvalho, DuPont, Eaton, Golden, Hagler, Hilliard, Hurley, Kamman, Lewis, Lowe, Marcello, McCaslin, Mierzejewski, Morris, Navarro, Paz, Pickens, Seligmann, Smith, Stern, Tanner, Turner, Wawro.

The Department of History offers graduate programs leading to the following degrees:

- Master of Arts (requiring one foreign language); and
- Master of Science, both with a major in history; and
- Doctor of Philosophy with a major in history.

Concentrations are available at the master's level in United States history and modern European history (since 1400).

Concentrations are available at the doctoral level in United States history and modern European history (since 1400).

Course offerings include a wide variety of classes on the history of the United States; ancient, medieval and modern Europe; Latin America; East Asia; the Middle East; Africa; and other topics. The department has special strengths in Texas history and military history.

The UNT library has a large collection of national newspapers, personal papers and other materials for the American colonial and early national periods, and for the Civil War and Reconstruction era. Also available are microfilm copies of presidential papers and those of other prominent Americans, such as Henry L. Stimson. A large microfilm collection of State Department materials includes diplomatic dispatches to 1906, the decimal file for all major countries, 1910 to 1929, and some of the decimal file beyond 1929. Library holdings include Texas newspapers, county tax rolls and U.S. census records. The library contains a large collection of Civil War soldiers' records. In addition, researchers have easy access to regional archival depositories, among them the Southwest Branch of the National Archives in Fort Worth.

Other important resources in the collection include German Foreign Ministry documents; *British and Foreign State Papers*; *British Parliamentary Debates*; British Cabinet documents; proceedings of the German

Bundestag, Bundesrat, and Bundeskabinett; debates of the French National Assembly; 17th-century British pamphlets and letters; and various source materials on medieval history.

Materials related to World War II include a large oral history collection on prisoners of war, Pearl Harbor survivors and Holocaust survivors. Other oral history collections include materials on African Americans in Texas and on Texas political and business leaders.

The UNT library has been a U.S. government depository since 1948. The library also has many back issues of U.S. government documents. The Department of History also houses its own extensive collection of books and films, the Kingsbury-Thomason Library.

Research

The research interests of the history faculty cover a broad range of United States, European, Latin American, African and Asian topics. Additional interests include military history, women's history, Great Britain, early modern and modern France, and the Italian Renaissance. History faculty members have published numerous books on such topics as Texas history, the U.S. South, Native Americans, 20th-century United States, oral history, World War II, England, France, Italy, Germany, and the history of science.

Center for the Study of Military History

The Department of History is home to the Center for the Study of Military History, which houses the editorial office of the journal *Military History of the West*. The center also coordinates activities and events at North Texas related to the study of military history, including the annual Military History Seminar. For more information, please contact the Director of the Center of the Study for Military History at (940) 565-2288. The Department of History is also the home of the Major General Olinto Mark Barsanti Chair in Military History, currently held by Professor Geoffrey Wawro.

Admission Requirements

1. All general admission requirements of the Toulouse School of Graduate Studies, as outlined elsewhere in this bulletin, must be fulfilled.
2. **MA degree:** The Department of History employs a holistic review process. Applicants are evaluated on their entire academic history. However, it is recommended that the applicant score at the 50th percentile or higher on the verbal portion of the Graduate Record Examination (GRE) and score either (1) at the 40th percentile or higher on either the quantitative or (2) a 4 or higher (on a scale of 1 to 6) on the analytical writing portion, have a bachelor's degree

and 24 hours of history credits from an accredited college or university, have a cumulative grade-point average (GPA) of 3.0 on a four-point scale for all undergraduate work or for the last 60 hours of undergraduate work, submit a statement of purpose and interests, provide two letters of recommendation, and have met all other university requirements.

3. **PhD degree:** Applicants are evaluated on their entire academic history; however, it is recommended that applicants score at the 70th percentile or higher on the verbal portion of the GRE and score either (1) at the 40th percentile or higher on either the quantitative portion or (2) a 4 or higher (on a scale of 1 to 6) on the analytical writing portion of the GRE, submit a statement of his or her purpose in seeking the doctorate in history, submit a formal paper (other than the thesis) from his or her master's work, provide three letters of recommendation from persons familiar with the applicant's post-secondary academic record, have a master's degree with a thesis and have met all other university requirements. No more than 12 hours accumulated above the requirements for the MA and MS programs may be transferred into the doctoral program.

Continuing Requirements

1. MA students: To enroll for a seventh course, a master's degree student must have earned a GPA in history courses of 3.25, and the student must maintain that average, exclusive of I and PR grades, each term/semester until the degree is awarded. If the student fails to maintain the minimum required average, he or she will be dropped from the degree program.
2. PhD students:
 - a. To enroll for a seventh course, a doctoral degree student must have earned a GPA in history courses of 3.5, and the student must maintain that average, exclusive of I and PR grades, each term/semester until the degree is awarded. If the student fails to maintain the minimum required average, he or she will be dropped from the degree program.
 - b. The student must also fulfill the residency requirement outlined in the "Doctoral Degree Requirements" section in this bulletin.
 - c. To remain in the doctoral program, the student must satisfy existing university regulations concerning completion of the doctoral dissertation.

Degree Programs

Master of Arts, Master of Science

Note: students earning a master's degree in the UNT history department must follow the thesis option to qualify for admission in the department's doctoral program.

Major in History, Thesis Option – 31 Hours

1. A graduate major in history consists of 25 hours of graduate work in history (including 1 hour of historical bibliography and at least two research seminars) and a 6-hour thesis. The 25 classroom hours may be selected from any courses offered by the department; the 6-hour thesis may be written on any topic approved by the student's advisory committee.
2. The student may substitute 6 hours in a related field approved by the chair of his or her committee for 6 hours of graduate course work in history.
3. A candidate for this degree must successfully complete an oral examination on the course work and the thesis.

Major in History, Non-Thesis Option – 31 Hours

The non-thesis option is regarded as a terminal degree by the UNT history department.

1. A student selecting this option must take any two research seminars in history and 1 hour of historical bibliography. The remaining 24 hours may be all in history or may include a minor up to 6 hours in a related field approved by the department chair.
2. A candidate for this degree must successfully complete an oral examination on the course work.

**Doctor of Philosophy
Degree Requirements**

The Doctor of Philosophy with a major in history is offered in two fields: United States and modern Europe (since 1400). The course of study for the doctoral program consists of four areas, at least one of which must be in modern European history and at least one of which must be in United States history. The areas in history must be chosen from a list provided by the department. The student must have a minimum of 36 classroom hours of graduate courses plus research and dissertation hours. A minimum of four research seminar courses in history and 3 hours in historiography are required. If an area outside history would enhance the student's program or career plans, the student's committee may allow the outside area with the permission of the department chair. Completion of a specific number of graduate hours does not automatically make one eligible for a degree. The student must show proficiency by satisfactory performance on written and oral examinations, by completion of the language requirement and by completion of an acceptable dissertation. Any student who fails to register for two consecutive long term/semesters in classes at UNT will be required to reapply for admission to the history doctoral program.

The program and degree plan of each doctoral student will be planned by the student and his or her advisory committee. The student will initiate a request to establish an advisory committee through the office of the graduate adviser who, in consultation with the

student and with the approval of the department chair, will select a major professor from the approved list. The person appointed will serve as chair of the student's committee. The major professor, in consultation with the student, will select other members of the committee. The student's degree plan and the composition of the advisory committee must be certified by the graduate adviser and approved by the chair of the department and the dean of the Toulouse School of Graduate Studies.

The committee will advise the student on program planning, arrange for all departmental examinations, approve in conjunction with the student the dissertation topic and judge the completed dissertation as a piece of original research justifying the awarding of the degree.

Doctoral committees in the Department of History must include a university graduate faculty member who is either Category I, II or III and whose principal faculty appointment is in a department other than the history department. The student's major professor and the student will work together to select a university member whose expertise will contribute meaningfully to the dissertation.

Foreign Language Requirement

The student must demonstrate a reading knowledge of one foreign language. The language requirement must be completed prior to taking the qualifying examinations.

Admission to Candidacy

The qualifying examinations will be taken when course work, other than research and dissertation, has been completed. These examinations, arranged by the advisory committee, will consist of written examinations and oral examinations covering four areas. The successful completion of these examinations is a prerequisite to admission to candidacy for the degree.

Admission to candidacy is granted by the dean of the Toulouse School of Graduate Studies upon recommendation of the advisory committee and the department chair, based upon the academic record of the student, approval of a dissertation topic and successful completion of language requirements and qualifying examinations.

Research and Dissertation

The doctoral student will submit a dissertation that is a significant contribution to the knowledge of history. Completion of the dissertation requires original and independent research in the field of specialization. The final oral examination will be primarily a defense of the completed dissertation.

Scholarships

The Department of History awards several scholarships for graduate students. Eligibility requirements vary from one grant to another, and amounts vary from year to year. Graduate students may also apply

for various types of work within the department: for example, teaching assistantships, teaching fellowships, research assistantships and positions in the department's History Help Center and in the department's own Kingsbury-Thomason Library. Applications for all financial aid administered by the department are available from the main office of the department [Wooten Hall, Room 225, (940) 565-2288]. Application deadline is March 1 of each year.

Courses of Instruction

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Course and Subject Guide

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Department of Journalism

Main Departmental Office
General Academic Building, 102

P.O. Box 305280
Denton, TX 76203-5280
(940) 565-2205

Web site: www.jour.unt.edu

Susan C. Zavoina, Chair

Graduate Faculty: Albright, An, Broyles, Busby, Everbach, Gormly, Lambiase, Land, Mueller, Wells, Zavoina.

The Department of Journalism offers graduate programs leading to the following degrees:

- Master of Arts with a major in journalism, and
- Master of Journalism.

Frank W. Mayborn Graduate Institute of Journalism

Main Office
General Academic Building, 207

P.O. Box 311460
Denton, TX 76203-1460
(940) 565-4564

Web site: mayborninstitute.unt.edu

Mitch Land, Director

Graduate work in the Mayborn Institute is designed to prepare students with lifetime communication and

intellectual skills for successful careers in the professions represented by the department's graduate degree programs. The Mayborn Institute also prepares students who wish to pursue academic careers in higher education. This nationally accredited program offers state-of-the-art technological training and support as well as research and study opportunities in news, advertising, public relations, photojournalism and broadcast news. Some web-based courses are now available.

Journalism graduate students are required to pass a written comprehensive examination over journalism courses taken. The examination should be scheduled near the end of the student's program. Journalism graduate students who write a thesis will defend that thesis in an oral examination with thesis committee members.

Research

Areas of research interest in the department include the impact of new technology on journalism and mass communication, the importance of ethics in media, the use of computers by students in professional preparation and to improve writing and information gathering skills. Research also is conducted on curriculum studies for journalism education and on defining the outcomes of journalism education. Other topics of research interest are sexism and racism in media, editorial policies of student newspapers, newspaper design and production, and international communication issues.

Admission Requirements

Application for admission should originate in the office of the dean of the Toulouse School of Graduate Studies. The applicant must hold a bachelor's degree from an approved college or university.

A satisfactory score on the Graduate Record Examination (GRE) must be submitted before formal admission to the graduate program in journalism. If admitted provisionally, a student will not be permitted to enroll in any courses for credit toward the master's degree after the first term/semester until an acceptable score is submitted and approved. A portfolio must also be submitted to the Mayborn Institute. Contact the Institute for details. International students may substitute successful completion of the Graduate Preparation Course for the verbal portion of the GRE. International students also must submit satisfactory scores on the TOEFL. The graduate director may make an exception in an unusual case.

Degree Programs

Master of Arts

General requirements for the Master of Arts with a major in journalism are the same as those listed in the Master's Degree Requirements section of this catalog.

The MA candidate whose undergraduate degree is not in journalism may be required to take up to 12 hours of undergraduate courses in journalism as approved by the graduate program director.

The MA candidate in journalism must complete a minimum of 36 semester hours, including a thesis of 6 hours. A minor is not required, but up to 12 hours may be taken in a minor field, or the 12 hours may be divided between two minor fields. The MA requires foreign language competency. Students should meet with their adviser after completing 12 hours to select a thesis chair and committee and to register for the comprehensive exam. Comprehensive exams must be passed before registering for thesis hours.

JOUR 5040, Media Studies and Theories, should be taken in the first term/semester of study in the journalism graduate program.

Required courses for the MA follow.

- JOUR 5040, Media Studies and Theories
- JOUR 5050, Readings in Mass Communication
- JOUR 5250, Research Methods I (Quantitative)
- JOUR 5260, Research Methods II (Qualitative)
- JOUR 5950, Master's Thesis (6 hours)

Master of Journalism

The MJ candidate whose undergraduate degree is not in journalism may be required to take up to 12 hours of undergraduate courses in journalism as approved by the graduate program director. The MJ degree has no foreign language requirement, and the 6-hour thesis is optional, but the candidate must complete a minimum of 36 hours of graduate work. A minor of at least 6 hours in another field is required. If as many as 12 hours of minor work are done, they may be divided equally between two approved fields.

JOUR 5040, Media Studies and Theories, must be taken in the first term/semester of study in the journalism graduate program.

Required journalism courses for the MJ follow.

- JOUR 5040, Media Studies and Theories
- JOUR 5050, Readings in Mass Communication
- JOUR 5250, Research Methods I (Quantitative)
- JOUR 5260, Research Methods II (Qualitative)

Minor Fields

Recommended minor fields for the MJ are English, history, information science, political science, radio/television/film, sociology, economics and business administration. A minor is optional for the MA.

Graduate Academic Certificate

Religion in Media and Culture

The Mayborn Graduate Institute of Journalism offers a graduate academic certificate titled Religion

in Media and Culture. This program consists of a focus of study examining religion and spirituality as it is expressed and perceived within culture and society generally and through mass-mediated communication specifically. The certification requires 15 hours of course work drawing from journalism and assigned readings in religious studies and the sociology of religion.

Admission Requirements (including prerequisites or degree)

Graduate standing; demonstrate competency in reporting (or may take JOUR 5010 as a prerequisite).

Course Requirements

- JOUR 5200, Public Opinion and Propaganda
- JOUR 5310, Media Ethics
- JOUR 5360, Religion Journalism
- JOUR 5380, Religion in Media and Culture
- JOUR 5900, Advanced Problems in Journalism (assigned readings in religion and society)

NT Daily

The award winning *North Texas Daily*, UNT's student newspaper, provides practical experience for students in all sequences of the Department of Journalism. The Student Publications Committee selects the editor each term/semester, and staff jobs are open to any UNT student. The *Daily* is published four days a week in the fall and spring terms/semesters and once a week in the summer. The *Daily* has been providing news and entertainment to UNT students since 1948. For more information, contact the *Daily's* adviser at (940) 565-2205, or visit the *Daily's* web site (www.ntdaily.com).

Courses of Instruction

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Course and Subject Guide

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Department of Mathematics

Main Departmental Office
General Academic Building, 435

P.O. Box 311430
Denton, TX 76203-1430

(940) 565-2155
Fax: (940) 565-4805

Web site: www.math.unt.edu

Neal Brand, Chair

Graduate Faculty: Allaart, Allen, Anghel, Bator, Betelu, Brand, Brozovic, Cherry, Clark, Conley, Douglass, Gao, Iaia, Jackson, Johnson, Kallman, Kung, Lewis, Liu, Mauldin, Monticino, Neuberger, Quintanilla, Richter, Sari, Shepler, Urbanski, Weller, Zamboni.

Opportunities for supervised research are available in a variety of areas involving pure and applied mathematics.

Students who graduate with degrees in mathematics are flexible and adaptable in the workplace and readily obtain jobs with high-technology companies and in business, industry, government and education. Salaries and working conditions are comparable with those of engineers and computer scientists.

Research

Faculty and students actively pursue both basic and applied research in mathematics from traditional areas of algebra, analysis, topology, probability and foundations to new and applied topics such as chaos theory, dynamical systems, image processing and stochastic differential equations.

Faculty research is supported by federal and private grants. Many of these grants provide research support for graduate students.

The library collection in the mathematical sciences is one of the nation's finest, with more than 18,000 volumes, and many are available electronically. Students and faculty have access to library resources via Internet from their offices.

Scholarships and Financial Support

Graduate students usually support their study by working as teaching fellows for the department. Teaching fellows are paid competitive stipends.

Work also is available as teaching assistants and math lab tutors, and the department has funds available for research assistants.

Contact the graduate adviser for complete details and for information about financial support.

Admission Requirements

Application for admission to the Toulouse School of Graduate Studies is made through the office of the dean of the School of Graduate Studies. The applicant should have the equivalent of an undergraduate major in mathematics at this institution. Deficiencies in this respect will be evaluated and must be remedied as a condition of final admission. An acceptable score on the GRE or GMAT is required. Contact the department or the Toulouse School of Graduate Studies concerning information about standardized admission test requirements.

Degree Programs

The Department of Mathematics offers graduate programs leading to the following degrees:

- Master of Science,
- Master of Arts, and
- Doctor of Philosophy, each with a major in mathematics.

All graduate students will consult with the graduate adviser regarding a program of study. Graduate students are evaluated annually regarding progress toward graduation. Those not making satisfactory progress will be dropped from the mathematics program. Appeals for reinstatement may be made to the department's graduate affairs committee.

Master of Arts

The Master of Arts degree with a major in mathematics is designed primarily for those students who plan to pursue the PhD degree and who plan careers in college teaching, business or industry. The program consists of 24 hours of approved course work (numbered 5000 or above) and a thesis carrying 6 hours of credit. A student in this program normally will take five of these six courses: MATH 5310, 5320, 5520, 5530, 5610 and 5620. A minor of 6 semester hours may be elected by the student with consent of the department. A final oral examination is scheduled after completion of the thesis.

Candidates for the MA degree must demonstrate proficiency in a foreign language (normally French, German, Spanish or Russian). See the Admission section of this catalog for further details.

Master of Science

The Master of Science degree with a major in mathematics is designed for those students who wish to develop a high level of competence in mathematical theory and technique in order to apply this knowledge in fields outside mathematics. The program consists of 36 hours of approved course work, possibly including a minor of up to 9 hours in a field outside mathematics. The student normally will take

five of these six courses: MATH 5310, 5320, 5520, 5530, 5610 and 5620.

Candidates must demonstrate a proficiency in computer programming equivalent to that acquired in a 6-hour introductory course. A final examination normally will be scheduled during the final term/semester of the student's course work. A thesis is optional.

Doctor of Philosophy

The Doctor of Philosophy degree is awarded for superior accomplishment, the attainment of a high level of scholarship and the demonstrated ability, through independent study and research, to carry out an original investigation and present the results of such investigation.

Course Requirements

Until the student has selected a major professor, the graduate adviser will assist in planning the doctoral program. The program will be designed to provide the student with competence in several major areas of mathematics and to provide for intensive study and research in the area of specialization. The student will be expected to complete approximately 90 hours of graduate work in mathematics beyond the bachelor's degree, of which about half should be in courses numbered above 6000. Included in this work, the student will be expected to take (or previously have taken the equivalent of) the following core sequences: MATH 5310-5320, 5410-5420, 5520, 5530 and 5610-5620. In addition the student is required to take at least two 6000-level courses in each of the areas of algebra, analysis and topology.

Foreign Language Requirement

PhD candidates must demonstrate proficiency in a foreign language approved by the department (normally chosen from French, German, Spanish and Russian). See the Doctoral Degree Requirements section of this catalog for additional information.

Qualifying Examinations

Before enrolling in the dissertation seminar, the student must pass qualifying examinations over two areas chosen from algebra, topology, real analysis and complex analysis. The doctoral advisory committee is appointed upon successful completion of the qualifying examinations.

Dissertation and Final Examination

The candidate must submit a dissertation exhibiting independent research on a topic approved by the doctoral committee. After the completion of the dissertation, a final comprehensive oral examination that will be primarily a defense of the dissertation will be given.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Philosophy and Religion Studies

Main Departmental Office
Environmental Education, Science and Technology
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(940) 565-2266

Web site: www.phil.unt.edu
E-mail: philosophy@unt.edu

Robert Frodeman, Chair

Graduate Faculty: Barnhart, Callicott, Frodeman, Gunter, Hargrove, James, Kaplan, Klaver, Rozzi, Yaffe.

The Department of Philosophy and Religion Studies is the leading graduate program nationally and internationally in environmental ethics and environmental philosophy. The department offers the following degrees:

- Master of Arts with a major in philosophy
- Doctor of Philosophy with a major in philosophy.

The master's degree is appropriate for students wishing to develop master's-level expertise in philosophy before pursuing doctoral studies in philosophy or related fields. It also provides an excellent background for students planning careers in law. A non-thesis option is available for students pursuing non-academic career opportunities. Because this option can be completed in slightly more than a year, it provides professionals with the opportunity to develop expertise in philosophy during one-year leaves of absence from their jobs.

Graduate courses in philosophy may also be taken as part of the Master of Science in Interdisciplinary Studies through the Center for Interdisciplinary Graduate Studies of the Toulouse School of Graduate Studies. This program permits students, in close

consultation with a faculty adviser, to create their own degree plans, which involve study in three or more related areas. This degree can be completed in one year including summer.

Because of its high concentration of specialists in the field of environmental ethics, the department offers humanists, scientists and professionals unique opportunities for postdoctoral work and professional development either through independent study and research or organized course work.

Philosophy courses also may be taken as a minor on the master's degree in other disciplines and as a minor or supporting work on the doctorate. Philosophy department faculty participate in the Faculty of Environmental Ethics, a universitywide group within the Center for Interdisciplinary Graduate Studies. See the Toulouse School of Graduate Studies section for more information about this faculty and its research and instructional activities.

The doctoral program in philosophy at the University of North Texas is a cooperative program between UNT and the University of Texas at Arlington, drawing upon the expertise of the faculty of both institutions. Students apply for admission to the PhD program through the degree granting institution, UNT. Upon admission, students are able to register for graduate courses at either participating institution and to make use of the academic resources available at both institutions. Students are required to complete a minimum of 15 graduate semester credit hours at each participating institution.

Career opportunities for students who successfully complete the UNT/UTA PhD in philosophy and religion studies are diverse. Students interested in specializing in environmental philosophy and ethics will be well positioned to find jobs in academe as demand for specialists in this exciting and expanding new subfield of philosophy increases. We expect that job-seeking students completing a more traditional course of study in philosophy and religion studies can find either academic or non-academic employment commensurate with their qualifications; those who are already employed in, for example, the religious vocations may enhance their skills and education.

For detailed information about the graduate program, visit www.unt.edu/programs/graduate/.

Research

Research in the department includes methods and philosophical implications of the social and natural sciences, phenomenology, literature, aesthetics, philosophy of religion and biblical studies, philosophy of mind and philosophical psychology, philosophy of education, metamathematics and philosophy of mathematics, philosophy of ecology, philosophy of law and political philosophy, and history of philosophy. The major thrust of the department is environmental ethics and environmental philosophy.

Scholarships and Financial Aid

Graduate teaching assistantships and fellowships are available from the department. To be eligible, students must have the equivalent of an undergraduate degree in philosophy. Applications must be received by February 1 each year. Two letters of recommendation, a statement of purpose, and a writing sample are required. All teaching assistants and teaching fellows are eligible to enroll on an in-state basis.

Because the graduate degree program in the department is recognized as a unique program by the Academic Common Market, students from 14 southern states may enroll on an in-state tuition basis.

A \$500 fellowship is provided to one student each term/semester by the Richardson Environmental Action League, a nonprofit recycling organization in Richardson, Texas. To be eligible a student must have completed 15 semester credit hours.

Two \$1,000 graduate support awards are available normally to students applying for graduate support.

Admission Requirements

Application for admission to the Toulouse School of Graduate Studies is made through the graduate school. At the same time, a letter of intent should be sent directly to the Department of Philosophy and Religion Studies. This letter should briefly summarize the applicant's background, specific interests in the field of environmental ethics and future career plans. Two letters of recommendation are required.

Applicants normally should have the equivalent of an undergraduate major in philosophy at this institution. Deficiencies will be evaluated on an individual basis. All students seeking admission to the graduate philosophy program are required to take a standardized admission test (e.g., GRE, GMAT, LSAT, etc.). For standardized admission test and additional admission requirements, contact the academic program or the Toulouse School of Graduate Studies.

For detailed information about admission requirements for the doctoral program, visit www.phil.unt.edu/programs/graduate/phd.

Degree Programs

Master of Arts

Two options exist for completing the Master of Arts with a major in philosophy and a concentration in environmental ethics: thesis and non-thesis.

For the thesis option, the student takes 24 semester credit hours of approved course work and a thesis carrying 6 hours of credit. The student will normally take a minimum of six courses in philosophy. Six semester credit hours in supporting fields may be elected by the student with the consent of the department. An oral examination is scheduled after the completion of the thesis.

The non-thesis option consists of 36 semester credit hours. The student will normally take a minimum of six courses in philosophy. A 9-semester-credit-hour minor in a supporting field is required. Nine additional semester hours may be elected by the student in philosophy or in one or more supporting fields. The examiners at the oral examination will include a faculty member representing the minor field and, at the option of the department, one or more representatives of other supporting fields.

Students pursuing either option are expected to complete one course in environmental philosophy, either PHIL 5450, 5451 or 5700. Students must also take one graduate course in environmental science.

Candidates must demonstrate proficiency in a foreign language. The language will normally be French or German, unless another language is specifically required for the student's research for the thesis. See the Master's Degree Requirements section of this catalog for further details.

For information on the Master of Science with a major in interdisciplinary studies, see the Toulouse School of Graduate Studies section of this catalog.

Doctor of Philosophy

For admission into the PhD program, prospective students must simultaneously meet the following requirements:

- The applicant must hold a bachelor's degree or its equivalent from a regionally accredited college or university.
- The applicant should have a master's degree in philosophy or a related field or be prepared to complete such a degree prior to completing the PhD in philosophy. (Students with master's degrees in fields other than philosophy are welcome to apply. As appropriate, such students will be required to take up to 18 hours of graduate work in philosophy as foundational background for acceptance in the program.)
- The applicant must have satisfactory academic standing at the previous institution attended and have at least a 3.0 GPA on the last 60 undergraduate semester hours of work prior to receiving the bachelor's degree or a 2.8 GPA on all undergraduate work to be considered for unconditional admission. Applicants who have already completed a master's degree must have at least a 3.4 GPA on the master's or meet the undergraduate GPA standards as listed to be admitted unconditionally for doctoral study.
- Students seeking the PhD in philosophy are required to submit satisfactory scores on the Graduate Record Examination (GRE) or another appropriate standardized examination.
- Previous academic performance must demonstrate the potential for graduate work in philosophy.

- An applicant whose first language is not English must demonstrate proficiency in oral and written English prior to being admitted.
- The applicant must, at a minimum, meet the requirements for acceptance into the Toulouse School of Graduate Studies at UNT.

In addition to meeting all of the requirements above, students applying for admission to the cooperative doctoral program in philosophy must submit three letters of recommendation, a writing sample representative of their best academic work in the field, and a "statement of purpose" describing both their reasons for pursuing doctoral work in philosophy and their specific areas of academic interest (e.g., sub-disciplinary areas of interest within the field).

Detailed information on requirements for the PhD with a major in philosophy is available from the department and online at www.phil.unt.edu/programs/graduate/phd.

The Center for Environmental Philosophy

Eugene C. Hargrove, Director

The Center for Environmental Philosophy encourages and supports workshops, conferences and other special projects, including postdoctoral research in the field of environmental ethics. Activities currently include the publication of *Environmental Ethics: An Interdisciplinary Journal Dedicated to the Philosophical Aspects of Environmental Problems*, which is now in its 28th year of publication; Environmental Ethics Books, a reprint series of important books dealing with environmental ethics and philosophy; and annual workshops on college and university curricula development and on nature interpretation. National research conferences focusing on selected topics in environmental ethics are held on an irregular basis.

Courses of Instruction

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Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Physics

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Physics Building, 110

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(940) 565-2626

Web site: www.phys.unt.edu

Floyd D. McDaniel, Chair

Graduate Faculty: Deering, Duggan, Golding, Grigolini, Hu, Kobe, Kowalski, Krokhin, Littler, Matteson, McDaniel, Mueller, Neogi, Ordonez, Perez, Quintanilla, Roberts, Shiner, Weathers.

Students in the Department of Physics have the opportunity to obtain training on state-of-the-art equipment in new and modern research laboratories in areas of interest to the scientific and industrial communities, particularly those involved in microelectronics, semiconductors, applications of accelerators, lasers and modern computational methods. Opportunities are available to develop highly marketable skills in modern basic and applied physics as well as close interactions with regional industries.

Research

The physics department is conducting research in solid state, semiconductor and polymer physics; atomic, molecular and applied nuclear physics, accelerator based materials physics and nuclear magnetic resonance; and theoretical physics in quantum, statistical and computational physics and non-linear dynamics, including applications to biomedical phenomena.

The condensed matter, molecular and atomic physics programs include studies of energy levels, lifetimes, scattering mechanisms, transition rates, dissipative responses and interaction of light with matter. Housed in the Physics Building and the Science Research Building, the laboratories associated with these programs contain continuous CO and CO₂ and far infrared lasers. Low temperature and high magnetic field facilities and transmission electron microscopes also are located in these laboratories. Current semiconductor projects include magneto-optic interactions, two-photon spectroscopy and the study of artificially structured materials. Field emission of diamond and microemitters are being investigated.

In nuclear magnetic resonance, high-resolution multipulse methods are used to study interactions in solids. A prime interest in theoretical physics lies in

applying quantum theory to many-particle systems. Mathematical problems involving Green's functions, Feynman diagrams, canonical transformations and gauge theory are being investigated. These and other methods are being applied to solids, quantum fluids and nuclei. Plasma confinement schemes are also being investigated using computational techniques.

The Ion Beam Modification and Analysis Accelerator Laboratory contains four accelerators, including a 200 kV high-current Cockcroft Walton machine, two 2.5 MV single-ended van de Graaf and a 3 MV Tandem Electrostatic Pelletron-Type Accelerator. The program's objectives are (1) fundamental studies of ion atom collisions, including ionization, excitation and charge transfer processes, and (2) the use of ion beams for materials characterization and modification of electronic and other materials. The most notable of these characterization techniques is the development of an accelerator-based Secondary Ion Mass Spectrometer (SIMS) that can detect impurities in materials at the parts-per-trillion level. This technique, called Trace Element Accelerator Mass Spectrometry (TEAMS), was developed in conjunction with the materials characterization group at Texas Instruments Inc. Other materials characterization techniques include nuclear reaction analysis, charged particle activation analysis, Rutherford backscattering spectrometry, ion channeling and particle-induced X-ray emission. These techniques can also be applied with a heavy-ion microprobe attached to the tandem accelerator. Modification of metal and semiconductor materials by ion implantation is also of interest.

Atomic and molecular spectroscopy investigations are being made to determine interaction parameters from line width and line profile data to better understand the collision phenomena and momentum transfer associated with gaseous mixtures. Experimental measurement and theoretical modeling of vibrationally excited molecular systems are being conducted with the goal of understanding molecular potentials. Precision spectroscopic measurements of atomic transition energies are being conducted to test the accuracy of QED theory.

The program in statistical physics has a variety of specializations, including both classical and quantum non-equilibrium statistical mechanics with an emphasis on stochastic differential equations. There also are investigations into deterministic randomness (chaos) and its relation to traditional stochastic processes. These techniques along with the numerical methods are applied to all areas of physics. In addition to the study of chaos, the techniques for non-linear dynamics are applied to the understanding of neural networks (research done in collaboration with members of the biological sciences department) and other complex physiological systems.

The Center for Nonlinear Science (CNS) is a research organization whose research focus is phenomena-driven rather than discipline-driven and, therefore, spans traditional disciplines such as physics, mathematics, biology and economics. The emphasis of CNS is on the development of new analytic and computational techniques to assist in the understanding of complex (nonlinear) phenomena that have not yielded their secrets to traditional methods of investigation.

Federal support of research projects in the department includes the National Science Foundation, the Office of Naval Research, the Air Force Office of Scientific Research, the Army Research Office, the Defense Advanced Research Projects Agency and the Army Night Vision Laboratory. Other research support has been granted by the Robert A. Welch Foundation, the Texas Advanced Technology Research Program, Texas Instruments Inc. and other industries.

Admission Requirements

Application to the master's or doctoral programs in physics is made in two separate parts:

1. The prospective student must complete all of the general application requirements for the UNT Toulouse School of Graduate Studies. These requirements are described in the UNT *Graduate Catalog* and the Toulouse School of Graduate Studies web site. To satisfy the requirements for a standardized admission test, the prospective student must take the general Graduate Record Examination (GRE); of principal interest are the results from the quantitative and analytical portions of the examination.
2. The prospective student must also complete the Department of Physics Graduate Application and submit it along with a current curriculum vitae and three letters of reference to the attention of the graduate adviser, UNT Department of Physics. The application and reference forms are available from the UNT Department of Physics web site. The letters of recommendation must be from individuals familiar with the applicant's academic and/or professional abilities. One letter may be from a current or past employer (if such experience exists), and at least one letter must be from the last academic institution attended.

In addition to the above, the program may consider the applicant's related work experience, research and publication record, presentations at professional meetings, leadership roles, teaching excellence, awards, potential to enhance the intellectual diversity of the department and program, potential to enhance the diversity of the university, and other factors that might provide evidence of potential success in completion of a graduate degree in the Department of Physics.

Degree Programs

The Department of Physics offers graduate programs leading to the following degrees:

- Master of Arts, and
- Master of Science, both with a major in physics; and
- Doctor of Philosophy with a major in physics.

Concentrations at the doctoral level are available in atomic physics, theoretical physics and solid state physics.

Master's Degree Options

Master of Arts (with thesis) or Master of Science (with research problems in lieu of thesis, or a course work option).

Option 1, Master of Arts

The graduate credit requirement for the Master of Arts degree is 30 semester hours chosen in the following manner.

1. PHYS 5500, 5510, 5710 and 5720.
2. PHYS 5950 (6-hour thesis). The thesis must be submitted in the manuscript form prescribed by the American Institute of Physics.
3. 12 semester hours chosen from physics or related fields, with permission of academic adviser and major professor.

Option 2, Master of Science

The graduate credit requirement for the Master of Science degree is 33 semester hours chosen in the following manner.

1. PHYS 5500, 5510, 5710, 5720, 6000 and 3 additional hours chosen from the basic curriculum of the physics PhD program.
2. PHYS 5920 and 5930 (Problems in Lieu of Thesis). Research problems in lieu of thesis are independent though not necessarily original studies that may be experimental, computational, tutorial, bibliographic, pedagogic or a combination of these. As part of the requirements for each problems course, the student must present a formal written report of the work done in the course, which must be approved by the advisory committee and filed in the graduate dean's office. Reports for PHYS 5920 and 5930 must be submitted in the manuscript form prescribed by the American Institute of Physics (see *AIP Style Manual*, current edition).
3. 9 hours chosen from physics or related fields. Physics courses must include PHYS 5450.

Option 3, Master of Science

The graduate credit requirement for the Master of Science degree is 36 semester hours chosen in the following manner.

1. PHYS 5500, 5510, 5710, 5720, 6000, 6001, 6030 and 6110.
2. PHYS 5450.
3. 9 additional hours, which may include 2 hours of PHYS 5940 and 6 hours of PHYS 5900.

Seminar in Current Literature or Colloquium

All physics graduate students must attend the department of physics' colloquium each week during each long term/semester of full-time graduate study. Students may opt to earn credit for this requirement by enrolling in PHYS 5941.

Examinations

An entrance interview concerning fundamental physics is required of all students. The results are used for advisory, placement and remedial purposes.

An oral presentation of the master's thesis (PHYS 5950) is required. The thesis is accepted by the student's advisory committee after an oral examination is successfully completed. Problems in lieu of thesis (PHYS 5920 and 5930) must be accepted by the student's advisory committee; oral presentation is optional.

Doctor of Philosophy

The Doctor of Philosophy degree represents the attainment of a high level of scholarship and achievement in independent research. To be granted a PhD with a major in physics, a graduate student admitted to the physics PhD program must achieve the following: (1) admission to candidacy for the PhD, and (2) approval for the granting of the PhD.

Admission to Candidacy for the PhD

Admission to candidacy for the PhD with a major in physics involves a two-part qualification process. In the first part, the student must demonstrate proficiency in the core areas of physics; in the second, the student must complete required advanced course work, and demonstrate preparedness for conducting independent research toward the dissertation.

1. Demonstration of proficiency in the core areas of physics:

The student must complete the following six core courses or their equivalents: PHYS 5500, 5510, 5710, 5720, 6030 and 6110. Students who take these courses at UNT and earn a grade of A in at least three of these courses and a grade of B in the rest will automatically satisfy this part of the qualification process. A student who enrolls at UNT with a master's degree in physics from another institution may meet this

requirement by completing PHYS 5510, 5710, 6030 and 6110, and attaining a grade of A in at least two of the courses and a minimum grade of B in the remainder. Alternatively, any student may satisfy this part of the qualification process by earning a minimum grade of B in the six core courses or their equivalent and by passing a comprehensive examination over the core areas of physics, to be scheduled and administered by the departmental examination committee. The expectation is that a student should pass this part of the qualification process after no more than three years of full-time graduate study if entering the program with only a bachelor's degree in physics, and after no more than one year of full-time study if entering the program with a master's degree in physics.

2. Preparation of independent research:

There are several aspects to this part of the qualification process. First, the student must select a major professor and a doctoral advisory committee. A major professor provides close guidance and supervision of the student's doctoral studies. The doctoral advisory committee is selected by the student in consultation with the major professor and must include the major professor. Second, the student must file a degree plan, which must be approved by the doctoral advisory committee and the graduate adviser. These two things should be done before or very shortly after satisfying the first part of the qualifying process. Third, the student must complete organized course work required by the degree plan and earn a minimum grade of B in each course. Fourth, after the student and major professor have decided upon a dissertation research project for the student, the student must present a proposal for the research to the doctoral advisory committee. This proposal must be in the form of both a written report and an oral presentation to the doctoral advisory committee. Prior to the oral presentation, the student must provide each member of his or her doctoral advisory committee with a copy of the report. The report and the oral presentation to the doctoral advisory committee must include both a description of the research already done and a proposal of research for completing the dissertation. The doctoral advisory committee will administer an oral examination at the end of the oral presentation over the proposal and related topics. The doctoral advisory committee must approve of the admission to candidacy for the PhD degree before the student applies for candidacy at the Toulouse School of Graduate Studies. Course work recommendations associated with specific concentrations are available. Please inquire with the graduate adviser. The following courses are recommended for all students: PHYS 5450, 5700, 6000, 6155 and 6500.

Approval of Granting the PhD

Approval of granting the PhD degree in physics requires demonstration of professional research

aptitude. Professional research aptitude must be demonstrated by conducting research and reporting the research in at least one peer-reviewed professional journal article of which the student is the first author, in a dissertation and in an oral presentation to the doctoral advisory committee referred to as the final defense. The appropriateness of the journal publication(s) must be evaluated by the committee. At least 30 days prior to the scheduled final defense, the student must provide each member of his or her doctoral advisory committee with a copy of his or her completed dissertation and a copy of the requisite journal article(s), which must be either already published or accepted for publication—in the latter case, copies of the letter(s) of acceptance for publication should be included. The doctoral advisory committee must approve the granting of the PhD degree before the student may submit the dissertation to the graduate dean for final approval.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The “Course and Subject Guide,” found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Political Science

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James Meernik, Chair

Graduate Faculty: Battista, Books, Booth, Clough, Cox, Ditslear, Enterline, Esbaugh-Soha, Forde, Greig, Kang, King, Maeda, Mason, Meernik, Oldmixon, Paolino, Poe, Reban, Ruderman, Sahliyyeh, Todd, Watson.

Research

The Department of Political Science has a number of research focuses, including the following: American political parties and behavior (including public opinion, mass political behavior, legislative politics, judicial politics and American political economy); comparative politics (including conflict and political violence, democratization, political institutions, parties and party systems, political behavior, political economy, Latin American politics, Asian politics, African politics and European politics); international relations (including conflict studies, foreign policy, international political economy, peace studies and human rights); political theory (including ancient, modern and American political thought; international ethics; and leadership and democracy); and research methodology.

The department’s research has been supported recently by a variety of external sources, including the Fulbright fellowship program, the National Science Foundation, the National Endowment for the Humanities, the Ford Foundation, the International Human Rights Law Group and the Olin Foundation.

As of 2003, the department houses the *International Studies Quarterly*, a premier journal of international studies in the world.

Of special importance to graduate education in political science is the university’s membership in the Inter-University Consortium for Political and Social Research (ICPSR), the world’s most important repository of social science research data, and the department’s membership in the European Consortium for Political Research. The Willis Library has an excellent collection of legal materials, serves as an official repository for U.S. government documents and has a collection of United Nations and related international agency documents.

Graduate students in political science have access to state-of-the-art micro- and mainframe computer resources and have full, free access to the extensive data resources of the ICPSR for use in their areas of research interest. The development of all graduate students is encouraged through regular student and faculty colloquia.

Admission Requirements

All general admission requirements to the Toulouse School of Graduate Studies, as outlined in the Admission section of this catalog, must be fulfilled.

Applicants for graduate programs must submit scores on the Graduate Record Examination general test. Applicants for the Master of Arts, Master of Science or PhD programs who have not completed the GRE requirement will not be admitted to graduate courses in political science.

Degree Programs

The Department of Political Science offers programs leading to the following degrees:

- Master of Arts,
- Master of Science, and
- Doctor of Philosophy degrees, each with a major in political science.

Concentrations at the doctoral level are available in American government and public law, comparative government and politics, international politics, political theory and methodology, and public administration and management.

Master of Arts, Master of Science

Admission

To be admitted to the Master of Arts or Master of Science programs, a student must have:

1. a bachelor's degree awarded by an accredited college or university;
2. a minimum of 24 hours of undergraduate or graduate work in political science;
3. an acceptable grade point average on the last 60 hours and acceptable GRE scores; for standardized admission test requirements, contact the department or the Toulouse School of Graduate Studies;
4. three letters of recommendation, preferably from professors; and
5. a 500-word statement of purpose.

Degree Requirements

The master's degree in political science requires a minimum of 30 semester hours, at least 24 of which must be taken in the Department of Political Science, including PSCI 5340, Seminar in Political Science Science and Methods, and PSCI 6320, Quantitative

Political Research Methods. A minor of 6 hours outside the department is optional. If an outside minor is chosen, the master's degree will include two fields in political science and the outside minor. If an outside minor is not chosen, the program must include two fields in political science.

The fields of political science available for inclusion are American government and politics, public administration, comparative politics, international relations, public law, political theory, and research methodology.

Candidates for the Master of Arts degree must present evidence that they have a reading knowledge of at least one foreign language. Candidates for the Master of Science degree must present evidence that they have achieved competence in a non-language research tool, typically by showing evidence of having completed courses at the graduate level for one of the non-language research tools listed in "Courses that Will Satisfy Non-Language Research Tools in Political Science." This document is posted on the department's web site.

Graduate credit course requirements are identical for the two degrees.

Successful completion of a thesis and satisfactory performance on an oral comprehensive examination complete the requirements for the master's degree.

Additional program information is contained in the document "Information for Master's Students," posted on the department's web site. The student is responsible for knowing its contents.

Doctor of Philosophy

Admission

To be admitted to the PhD program, the following are required:

1. a bachelor's degree awarded by an accredited college or university;
2. a minimum of 24 hours of undergraduate or graduate credit in political science. With the advance approval of the admissions subcommittee of the department's graduate studies committee, one of the following may be substituted for the 24 hours in political science:
 - a. 30 combined hours of credit in political science or other disciplines relevant to the proposed course of graduate study; or
 - b. a combination of credit in disciplines relevant to the proposed course of graduate study and substantial work experience in a position or occupation relevant to the proposed course of graduate study;
3. an acceptable grade point average on the last 60 hours and acceptable GRE scores; for standardized admission test requirements, contact the department or the Toulouse School of Graduate Studies;

4. three letters of recommendation, preferably from professors; and
5. a 500-word statement of purpose.

Degree Requirements

The doctoral degree requires a minimum of 90 semester hours beyond the bachelor's degree if the student does not choose to earn a master's degree.

If the student already holds a master's degree in political science, a minimum of 60 hours beyond the master's degree is required, including:

1. PSCI 5340, Seminar in Political Science Scope and Methods (3 hours) and PSCI 6320, Quantitative Political Research Methods (3 hours); and
2. completion of a dissertation with a maximum credit of 12 hours.

A student must elect three areas of study for the Doctor of Philosophy degree. The student must pass qualifying examinations in three political science areas. The three areas must include a major area and two supporting areas in political science. Additional course work will be taken in other areas of political science or a related field.

The student plans a program with an advisory committee that consists of a major professor, one professor from each of the student's two other areas in political science, one professor representing the student's other course work, and one departmental representative. The departmental representative is appointed by the political science graduate adviser. This committee advises the student on the program, arranges for all departmental examinations, approves the dissertation topic and judges the completed dissertation as a work of original research and writing justifying the awarding of the degree.

If a student elects a minor outside political science, it must be supportive of the study within the discipline. The outside minor cannot replace either of the political science areas for the qualifying exams. The areas available within political science are:

- political theory, research methodology
- American government and public law
- public administration
- comparative government and politics
- international relations

Additional program information is contained in the document "Doctoral Degree Program Guide," posted on the department's web site. The student is responsible for obtaining a copy of the document from the department and for knowing its contents.

Foreign Language or Tool Requirement

Candidates for the PhD must present evidence that they have a reading knowledge of at least one foreign language or that they have achieved competence in a non-language research tool. Language

competency is typically defined as two years of language study or the equivalent. The non-language tool requirement is typically fulfilled by completing courses listed in "Courses that will Satisfy Non-Language Research Tools in Political Science." This document is posted on the department's web site.

Research Practicum

The student must complete a 6-hour research practicum prior to taking the qualifying examinations. The research practicum is an exercise in original research carried out under a faculty member's guidance.

Qualifying Examinations

The qualifying examinations will be taken when all course work and language or research tool requirements have been satisfied. These examinations consist of both oral and written examinations covering both the major and minor areas in the student's degree plan. Successful completion of these examinations is a prerequisite to admission to candidacy for the degree.

Admission to candidacy is granted by the dean of the School of Graduate Studies upon recommendation of the advisory committee and the department chair; admission is based upon the academic record of the student, approval of a dissertation topic and completion of language or research tool requirements and qualifying examinations.

Research and Dissertation

The doctoral candidate must submit a dissertation demonstrating original and meaningful research that is a significant contribution to the major field. The major professor and other members of the advisory committee must approve the dissertation prior to the final examination, which will be primarily a defense of the dissertation.

In the event that all requirements for the degree are not completed within eight years after admission to the program, the advisory committee may require the student to take additional course work. The student also must observe the 10-year time limit for completion of all work toward the doctorate, set forth in the Doctoral Degree Requirements section of this catalog.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Psychology

Main Departmental Office
Terrill Hall, 343

P.O. Box 311280
Denton, TX 76203-1280
(940) 565-2671

Web site: www.psyc.unt.edu

Linda L. Marshall, Chair

Graduate Faculty: Beyerlein, Campbell, Clark, Critelli, Doster, Guarnaccia, Hayslip, Jenkins, Kaminski, Kelly, Marshall, Martin, Murrell, Neumann, Petrie, Riggs, Rogers, Schneider, Sewell, Taylor, Terrell, Toledo, Vosvick, Watkins.

The Department of Psychology affirms the importance of scholarship, research and quality of education for all students, whether they are preparing for careers in basic research, applied research, teaching, or service delivery. This training takes advantage of numerous resources within the department, including the Psychology Clinic, the Institute of Applied Research, the Brain Mapping Facility and specific laboratories for statistics, psychophysiology, psychosocial health, neuropsychology, and psychoneuroimmunology. Graduates of the department have gone on to distinguish themselves in research, administrative, teaching and service careers in a range of settings, including universities, medical schools, hospitals, mental health centers, counseling centers, rehabilitation facilities, industrial and organizational settings, and private practices in consulting, therapy and assessment.

Research

Faculty in the Department of Psychology are active researchers. Their programs of research offer students a variety of experiences, topics and perspectives, using a number of different methods. Faculty's expertise include topics and methods traditional to subdisciplines and theories of psychology (e.g., psychotherapy, vocational decisions, psychopathology, cognition, aging, physical and psychological health, physiology). Some faculty conduct purely theory-based research using a variety of perspectives (e.g., moral development, personal construct theory, personality theory, stress theory). Other faculty are expert in applied research, designed to address social problems (e.g., abuse, HIV/AIDS, sexual aggression). Many faculty members have programs on the cutting edge of psychology (e.g., psychoneuroimmunology, sport psychology, industrial/organization issues, cognitive

neuroscience, memory). In addition, there are ongoing projects on ethical and professional issues, ethnic diversity, minority and women's concerns.

From the time that students enter our graduate program they are given many opportunities and are encouraged to be actively involved in conducting research. Students gain competence in research through course work, vertical research teams headed by a faculty member and informal research experiences. This involvement allows students to gain valuable skills from different faculty members while learning the substantive and methodological knowledge necessary for their future careers. A student's research experience culminates in an independent doctoral dissertation that contributes to the knowledge base of psychology.

Centers

Center for Psychosocial Health. This center consists of a multidisciplinary group that draws upon the disciplines of anthropology, behavioral medicine, education, psychology, public health and sociology to pioneer research on psychosocial phenomena involved in healthy living. Basic research on wellness within a chronic illness context provides a foundation for the future development of psychosocial and behavioral interventions that encourage health-related behavioral change. As chronic illness can affect anyone—regardless of race, ethnicity, gender, sexual orientation and socioeconomic status—we strive to identify, from a multicultural perspective, psychosocial factors critical to the development of effective interventions.

Center for Sport Psychology and Performance Excellence. The Center for Sport Psychology and Performance Excellence (CSPPE) is a multidisciplinary center devoted to offering sport psychology interventions, research and training. The center combines knowledge, skill and expertise from psychology and exercise science to produce the most comprehensive and state-of-the-art sport psychology services available. In addition, through the center, graduate students are able to pursue specialized training in sport and exercise psychology.

Center for Collaborative Organizations. The goal of the Center for Collaborative Organizations is to create learning partnerships with industry for the purposes of generating, archiving and disseminating information about work teams. The center serves as a research and education entity for organizations using team-based and other collaborative structures and, in conjunction with its industry partners, provides those organizations with the highest quality products and services concerning team issues. The center is committed to harnessing strengths of business and academia in a joint effort to master the challenges of designing and implementing collaborative organizations.

Psychology Clinic. As part of the department's Applied Training Unit, the Psychology Clinic is a training site for graduate students. Through the clinic, psychological services are offered to the community within the Dallas–Fort Worth region. Services available to the community include psychotherapy, vocational counseling, psychological assessment and biofeedback.

Admission Requirements

1. Before being admitted to either the master's or the doctoral program, the applicant must meet the requirements for admission to the Toulouse School of Graduate Studies specified in the Admission section of this catalog.

2. Admission to graduate degree programs in psychology is competitive, as available facilities do not permit admission of all qualified applicants.

Applying is a two-part process. First, prospective applicants for graduate degree programs must obtain and file an application for admission to the UNT graduate school from the graduate dean's office. Second, applicants for graduate psychology degrees also must obtain and file a separate application for admission to psychology programs from the psychology department's graduate office. The application deadline for graduate programs in clinical and counseling psychology is the first university work day of January preceding the fall term/semester for which the student is applying. All other programs will commence review of application files on February 1 and continue to admit students through the year according to the university calendar for admission for the fall term/semester. (See the Academic Calendar in this catalog for admissions deadlines.) All academic prerequisites for the clinical, counseling, health psychology/behavioral medicine and industrial-organizational programs must be completed by the end of the spring term/semester preceding the fall term/semester for which the student is applying.

3. All applicants must submit satisfactory scores on the aptitude (verbal and quantitative) section of the Graduate Record Examination (GRE) prior to admission. For standardized admission test requirements, contact the department or the Toulouse School of Graduate Studies. Undergraduates who plan to apply for graduate training should arrange to take the GRE during their senior year.

4. References and recommendations must be submitted by applicants for admission to the doctoral and master's programs in psychology. Applicants are required to submit three satisfactory recommendations on special forms provided by the department, including one from their last professional employer (if they have had such previous experience) and one from the last academic institution attended.

In all cases, the Department of Psychology maintains the right to make independent inquiry of the applicant's employers and the faculties of institutions previously attended, as well as to deny admission to an applicant who in its judgment, or in the judgment of any of the psychology departments of the federated universities (in the case of doctoral applicants), fails to meet personal or academic admission standards.

Degree Programs

The department offers graduate programs leading to the following degrees:

- Master of Arts, and
- Master of Science, both with majors in clinical psychology, counseling psychology, experimental psychology, industrial psychology; and
- Doctor of Philosophy with majors in clinical psychology, counseling psychology, experimental psychology, health psychology and behavioral medicine, and industrial-organizational psychology.

The doctoral programs in counseling psychology, clinical psychology, and health psychology and behavioral medicine have been approved by the American Psychological Association [750 First Street NE; Washington, DC 20002-4242; (202) 336-5979].

The counseling psychology doctoral program is offered through the Federation of North Texas Area Universities.

The master's degree is intended to prepare students for higher degrees and to qualify them for a number of subdoctoral positions.

The experimental psychology curriculum is intended to provide a highly individualized program for the student interested in study and research in one of several specialized areas.

The doctoral curricula in clinical psychology and counseling psychology are designed to serve a variety of purposes that focus on the development of a well-rounded professional psychologist. These purposes include a thorough grounding in scientific methodology and an orientation to the profession, development of competency in psychological assessment and evaluation, and training in various psychotherapeutic and counseling techniques and skills.

The program in health psychology and behavioral medicine prepares psychologists for service delivery roles in medical and other health care settings as well as roles in program development and evaluation. There is strong emphasis on mind/body interaction as students focus on the matrix of psychological, social, physiological and environmental processes in understanding etiological and diagnostic factors of illness, prevention and recovery. Fundamental skills in clinical assessment, evaluation and psychotherapy are integrated with scientific advances in health psychology/behavioral medicine in order to meet the holistic needs of the individual.

All departmental PhD programs require successful completion of a doctoral dissertation.

Academic Prerequisites

The minimum criteria for consideration for admission are 24 hours of psychology (12 advanced) plus the following:

PhD minimum criteria for application requires one of the following six:

- 3.0 GPA overall on the BA
- 3.5 GPA on the last 60 hours of the BA
- 3.5 GPA in undergraduate psychology course work
- 3.5 GPA on a completed master's degree (exclusive of practicum and thesis)
- Completed doctoral degree in another field
- First or second author on an article in a peer-reviewed scientific or professional journal

Applicants must submit their GRE verbal and quantitative scores.

MA minimum criteria for application requires one of the following four:

- 2.8 GPA overall on the BA or 3.0 GPA on the last 60 hours of the BA
- 3.0 GPA in psychology course work
- Master's degree in another field
- First or second author in a peer-reviewed scientific or professional journal.

Applicants must submit their GRE verbal and quantitative scores.

Applying to more than one program is not encouraged. The student who elects to apply to more than one program must submit a separate application packet for each program. Each application submitted must be in packet form and mailed under separate cover to the individual programs. Each packet must include a completed psychology department application, photocopies of transcripts, photocopies of GRE score reports, personal resume and a statement of goals. Separate letters of recommendation are required for each program to which the student is applying, and letters must have a program specified. We prefer that letters of recommendation accompany the application packet; however, they may be submitted under separate cover directly from the recommender. If they accompany the application packet, these letters must be sealed and signed across the back flap by the referee. Materials submitted to the School of Graduate Studies do **not** need to be duplicated for each program to which the student applies.

Graduate Record Examination (GRE)

Applicants must have taken the GRE general test **prior** to the application deadlines. The psychology subject test is not required. Applicants should enclose a copy of the score report with the application, if

available. The graduate school will send the department a copy if the applicant does not submit one.

Previous College

Applicants should list the names of all colleges attended, even if no degree was received from an institution. When applicable, the name of degree received, date degree was awarded or expected to be awarded, and major should be specified.

Required Psychology Prerequisites

Applicants should list specific undergraduate prerequisite courses to be considered as psychology prerequisites. These specific prerequisite courses cannot be waived and must be completed

- before the end of the spring semester for application to the clinical or counseling programs, or
- by the graduate school deadlines (see the Admission section of this catalog or the Academic Calendar) for applications to industrial-organizational, health psychology/behavioral medicine and experimental programs for the application to be considered for the following fall term/semester.

Graduate programs in psychology admit students only to fall semesters/terms.

Applicants who have not already taken these courses should make note on the application form of when they will be taken. This prerequisite course work includes two courses for master's applicants:

- Experimental Psychology or Research Methods/Design, and
- Statistics.

The requirement for Experimental Psychology of Research Methods/Design and Statistics must be completed in two courses.

For doctoral applicants, statistics, **plus three** of the following broadly named courses are required as prerequisites:

- Experimental Psychology or Research Methods/Design
- Learning
- Perception
- Motivation
- Cognition
- Psychological Measurement
- Physiological Psychology
- Research Thesis.

Applicants **must** enclose either a catalog description (Internet printout is acceptable) or syllabus for these specific prerequisite courses. A course in statistics from a department other than psychology could apply to fulfill the prerequisite requirement, and the grade points from this course would be included in the psychology hours GPA. However, such a course is not credited toward the required prerequisite psychology semester hours. To calculate Quality Points, multiply grade (4.0, 3.0, 2.0) by

hours of the class (4.0, 3.0, 2.0, 1.0). Example: a grade of A (4.0) in a 3 hour class would equal 12 quality points.

Those doctoral applicants who hold a master's degree with a major in psychology, but not an undergraduate degree in psychology may elect to use master's course work to satisfy psychology prerequisites. If admitted to a graduate program, the courses used as prerequisites may not be used toward a degree plan as transfer work.

In addition to the specific courses outlined above, the applicant must also have psychology course work of 24 semester hours (12 hours upper level) to be considered. Those applicants with a bachelor's or master's degree with a major in psychology would have completed, in the course of the degree, more than the required 24 semester hours. All of these courses must be taken in a psychology or educational psychology department. Courses listed to fulfill the total number of hours requirements should be converted to semester hours using a four-point system.

Academic Record

All GPA's should be computed on a 4.0 scale (A=4, etc.). The Department of Psychology computes plus- or minus-grades as the straight letter grade. The minimum requirements follow.

For **master's applicants with a completed bachelor's degree:**

- a GPA of 3.0 on the last 60 semester hours or a GPA of 2.8 overall on the bachelor's degree, and
- a GPA of 3.0 on all psychology hours.

For **doctoral applicants with a completed bachelor's degree only:**

- a GPA of at least 3.5 on the last 60 semester hours or a GPA of 3.0 for the entire bachelor's degree.
- a GPA of 3.5 on all undergraduate major or minor course work in psychology.

For **doctoral applicants with a completed master's degree in psychology:**

- a GPA of 3.5 on all graduate work, exclusive of practicum and thesis.

Applicants with completed bachelor's or master's degrees in a field other than psychology must meet the GPA requirements stated above and also have completed the minimum hours of prerequisite psychology courses with the minimum GPA requirements stated above.

Degree Requirements

A program committee has been constituted by the department to consider the possible separation from the degree program of any student who in the committee's judgment appears unlikely to succeed professionally, regardless of grades earned. Students who do not make satisfactory and continuous progress may be dropped from their program.

Students interested in becoming licensed and certified as psychologists or psychological associates

in the state of Texas are required to have specified supervised experiences that are approved by the Department of Psychology. Departmental program directors should be consulted for details.

Master of Arts, Master of Science

Both the Master of Arts and the Master of Science degrees are available in the Department of Psychology. Description of procedures for fulfilling the language requirement is located in the Master's Degree Requirements section of this catalog. For any master's degree that does not include a thesis, a final oral comprehensive examination is required.

All degree programs must be planned in consultation with the student's advisory committee. Students are strongly urged to file a degree plan during their first term/semester of graduate study.

Clinical Psychology

Pass-through degree only; program does not accept master's applicants.

Counseling Psychology

61–64 Hours

Required courses: PSYC 5050, 5340, 5420, 5470, 5620, 5680, 5690, 5700, 5780, 5820, 5831-5832, 5880 and 5950.

Other courses will be selected in consultation with the student's advisory committee.

Students interested in becoming licensed professional counselors in the state of Texas should notify the director of their program area so their degree plan may be arranged to include appropriate course work.

An option to substitute 6 hours of academic courses, practicums or field work for the thesis is provided for the student who does not intend to proceed with doctoral work. Such substitutions must be approved by the student's advisory committee. For such a substitution 750 clock hours of practicum, and a minimum grade of B must be made on courses substituted for the thesis.

Experimental Psychology

Track 1, 32 Hours

Will not lead to eligibility to take the psychological associate examination in the state of Texas.

Required courses: PSYC 5030, 5640, 5700, 5840 and 5950.

Electives: 6 hours selected from the remaining 5000-level psychology courses, in consultation with the major professor.

Minor: a 6-hour minor from a field outside the Department of Psychology may be selected.

Track 2, 44 Hours

Required courses: PSYC 5640, 5700, 5790, 5840, 5900 and 5950.

Electives: 12 hours selected from the remaining 5000-level psychology courses, in consultation with the major professor.

Minor: a 6-hour minor from a field outside the Department of Psychology may be selected.

Industrial-Organizational Psychology

Program considers applicants when space is available. Check with department for current status.

Track 1, Personnel Psychology, 51 Hours

Required core courses: PSYC 5230, 5240, 5420, 5700, 5740, 5750, 5820, 5831-5832 and 5950.

Additional required courses: PSYC 5030 and 5840.

Electives: 6 hours, in consultation with the major professor.

Track 2, Employee Counseling and Consulting Psychology, 49 Hours

Required core courses: PSYC 5230, 5240, 5420, 5700, 5740, 5750, 5820, 5831-5832 and 5950.

Additional required courses: PSYC 5440 and 5680.

Elective: 3 hours, in consultation with the major professor.

Doctor of Philosophy

Course Requirements and Use of Transfer Credit

The PhD degrees in psychology require a minimum of 90 semester hours beyond the bachelor's degree, plus a one-year supervised internship for the clinical, counseling, industrial-organizational, and health psychology/behavioral medicine programs. The qualified and accepted student may enter a degree program holding either a bachelor's or master's degree. The maximum amount of transfer credit from an appropriate master's degree is 30 semester hours.

A student entering with a master's degree or equivalent may, upon the consent of the advisory committee, transfer a maximum of 12 appropriate semester hours beyond the master's degree, provided the work has been taken in a department offering a doctoral degree in psychology. Thus, a minimum of 48 hours in residence would remain to be completed.

Students should be aware that internship training sites are spread across the country. Responsibility for an internship training site's compliance with the Americans with Disabilities Act rests with the internship site. Internships are competitive and the student is responsible for securing an internship that meets with departmental approval.

Clinical Psychology

This program requires a minimum of 96 semester hours plus a one-year internship. The 20 hours in general core psychology include the following: advanced social psychology, advanced research design, advanced statistics, theories of learning, advanced history and systems, and advanced physiological psychology. The clinical core consists of professional issues and ethics; assessment, evaluation and diagnosis; psychotherapy; psychopathology; and clinical service skills.

A pass-through master's degree is possible with 50–60 hours and program approval. A pass-through master's application must be filed with the graduate school.

50–60 Hours

Required courses: PSYC 5420, 5620, 5700, 5780, 5820 (6 hours), 5831-5832 and 5950.

Electives: PSYC 5640 and one additional course selected from 5010, 5030, 5070, 5640 and 5680.

Additional courses: two courses (at least 3 hours each) selected from (a) the remaining 5000-level psychology courses, or (b) one field outside the Department of Psychology, as a minor.

Counseling Psychology

This program requires a minimum of 111 semester hours plus a one-year internship and includes 20 hours in general core psychology: advanced social psychology, advanced research design, advanced statistics, theories of learning, advanced history and systems, and advanced physiological psychology.

The counseling core consists of 45 hours that includes course work in the following areas: developmental issues, assessment, individual and group techniques, legal and ethical issues, psychopathology, vocational psychology, personality and multiculturalism. Counseling majors are required to take a pre-practicum for which they receive 4 hours credit. A research core composed of 16 hours and practicum training consisting of 12 hours also are required. The elective cluster is composed of 12 hours selected to represent an organized and integrated sequence in the student's area of interest.

Experimental Psychology

This program requires a minimum of 92 semester hours and includes 20 hours in general core psychology: advanced social psychology, advanced research design, advanced statistics, theories of learning, advanced history and systems, and advanced physiological psychology. The experimental core consists of a minimum of 15 hours in experimental psychology, statistics and research practicums. The student is expected to be involved in research throughout the program. Further experimental core requirements are selected in consultation with the student's major adviser, to be selected from one of four concentration areas. A minor field consisting of 12–18 hours may be selected. Each student must also complete a 6- to 12-hour integrated elective area in psychology that is consistent with individual interests.

Health Psychology and Behavioral Medicine

This program is offered in collaboration with our sister department at the UNT Health Sciences Center. Professional study requires a minimum of 103 semester hours, including 20 hours of general psychology (social psychology, research design and

statistics, learning and cognition, history and systems, and physiological psychology) and 42 hours of clinical core courses (psychological assessment, psychopathology, medical and behavioral disorders, professional ethics, cultural aspects of health, psychotherapy methods, behavior analysis, developmental health psychology, applied psychophysiological procedures, and psychoneuro-immunology). Students are continually involved in clinical and research experiences before culminating professional preparation with a one-year, full-time clinical internship.

Industrial-Organizational Psychology

This program requires a minimum of 93 semester hours beyond the bachelor's degree, including a one-year supervised internship. Additional credit hours may be necessary to satisfy the foreign language requirement. Students entering the program with a master's degree will be required to take a minimum of 60 semester hours, including the internship. The program is designed to be completed in five years of full-time study beyond the bachelor's degree.

The I-O psychology concentration core consists of 31 semester hours on the following topics: personnel selection, organizational psychology, teams in organizations, organizational consulting, assessment of individuals in organizations, psychometric theory, multivariate analysis, and strategic applications of I-O psychology. The strategic applications course is taken in the student's final term/semester of course work and serves as a capstone seminar that allows students to integrate their previous course work in preparation for their doctoral qualifying examinations and their internship.

Dual Degree Options

All doctoral programs make provisions to allow the completion of a master's degree in general psychology.

Behavioral medicine makes provision for this plus three other master's programs. En route to completing the requirements for the PhD students may select behavioral analysis or public health.

These additional options require separate application to and admission by the Department of Behavior Analysis or the School of Biomedical Science respectively. The option with behavioral analysis provides a knowledge base in the principles, theory and research methods of behavioral analysis for applications in medicine and health contexts. The option with public health prepares students for roles in the development, implementation and evaluation of models involving the promotion of health behaviors, the prevention of physical and psychological trauma, and the creation of environmental contexts supportive of personal well-being.

Foreign Language or Research Tool Requirement

Candidates must present evidence that they have a reading knowledge of one foreign language (see the Doctoral Degree Requirements section for details) or have demonstrated competency in a research tool subject that has been approved by the Department of Psychology and the graduate council. If the tool substitution involves taking additional courses, the student must make a minimum grade of B in each course. Credits earned are in addition to the hours required for the degree.

Residence Requirement

The candidate must meet the doctoral residence requirement as outlined in the Admission section of this catalog.

Qualifying PhD Examination in the Major Area

Each of the departmental PhD programs requires successful completion of a comprehensive examination in the student's respective program. The faculty in each program area is responsible for the format, administration and grading of the examination.

Dissertation Examinations

Students complete two dissertation-related examinations: the proposal and the final comprehensive examination. Students first defend their dissertation proposal, which can be done only after successfully completing the language requirement, master's thesis or its equivalent, and the qualifying PhD examination for the program. Upon completion of the dissertation research, the student may schedule the final comprehensive exam for the dissertation.

Advisory Committee

A temporary degree program adviser is assigned to doctoral students during the first term/semester of enrollment. The dissertation committee is formed at some point later in the student's program. The minimum number of members for a dissertation committee is four. It is the department's expectation that one of the four members will be from outside the department of psychology.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Radio, Television and Film

Main Departmental Office
Radio, TV, Film and Performing Arts Building, 262
P.O. Box 310589
Denton, TX 76203-0589
(940) 565-2537
Web site: www.rtvf.unt.edu

Alan B. Albarran, Chair

Graduate Faculty: Albarran, Benshoff, Craig, B. Levin, M. Levin, Park, Sauls.

The department offers graduate programs leading to the following degrees:

- Master of Arts,
- Master of Science, and
- Master of Fine Arts degrees, all with a major in radio/television/film.

The Master of Arts and Master of Science programs are designed for persons who wish to pursue research in mass communication leading to a written thesis. Building on a strong undergraduate program, the department has a particular emphasis at the graduate level in the following areas:

- Documentary studies, which includes the history of and current trends in documentary film;
- Media industry studies, which includes topics such as economics of the mass media, media management, law and regulation for broadcasting, audience research, globalization, programming and television news; and
- History and criticism, which includes topics such as film and television criticism, ethnicity in American film, genre studies, and media history and theory.

The Master of Fine Arts program is designed for persons who wish to receive academic, aesthetic and technical training that will lead to the creation of a major production thesis.

Research

Members of the radio/television/film faculty include internationally recognized scholars, seasoned media professionals and award-winning documentary filmmakers. Research specialties include media history and criticism, cultural studies, international media and broadcast operations. Books written by RTVF faculty are used in university courses throughout the world, and faculty-produced films and television programs have been broadcast on television, selected for film and video festivals and screened at numerous other venues including New

York's Museum of Modern Art. Faculty members also serve on the boards of national and international organizations dealing with media education and film preservation.

Admission Requirements

Master of Arts, Master of Science

Applicants must meet the requirements of both the Toulouse School of Graduate Studies and the Department of Radio, Television and Film. If applicants are accepted by the Graduate School, their files are forwarded to the Graduate Committee in the Department of Radio, Television and Film for further evaluation. The following may be considered in the RTVF department's minimum requirements.

- Completion of a bachelor's degree from an accredited institution with an overall GPA of at least 3.0.
- Completion of a minimum of 24 hours of undergraduate courses in RTVF or related field of study such as mass communications, media studies or media production.

To apply, the following materials should be sent **directly to the Toulouse School of Graduate Studies**.

1. Official transcripts from all undergraduate and graduate institutions attended.
2. Official GRE scores sent from the Educational Testing Service.
3. A completed graduate application form.
4. Application fee.

In addition, the following items should be submitted **directly** to the RTVF director of graduate studies at the department's address above.

1. A statement of purpose, in which the applicant states career goals and tells why the master's degree in RTVF from UNT will help achieve those goals.
2. A required writing sample (research paper, professional report, substantial essay, etc.).
3. A minimum of two current letters of recommendation. For most applicants, the letters must be provided by current or former professors. An applicant who has worked professionally in radio, television or film may submit one of these letters from a person who has supervised his or her work. If an applicant has been out of school for several years, both letters may be from people who can evaluate his or her work in these fields.
4. An applicant from outside the United States must demonstrate proficiency in oral and written English prior to admittance. In addition to GRE scores, international students must submit TOEFL scores.

After the first 12 semester hours of graduate study are completed, the student and the director of graduate studies prepare a degree plan using one of the options available in the student's area of concentration.

The degree plan must be approved by the department chair and the graduate dean. Until it has been approved, the student will not be permitted to enroll for additional graduate work for credit applicable to the degree.

The RTVF department curriculum for MA/MS degrees is designed to allow for two-year completion, with course work beginning in the fall term/semester.

Master of Fine Arts

In addition to those items listed under Admission Requirements for the Toulouse School of Graduate Studies, applicants for the MFA program must submit the following **directly** to the RTVF director of graduate studies at the department's address above:

1. A statement of purpose, describing both reasons for pursuing the terminal degree in media production and the specific areas of academic and professional interest.
2. A portfolio of creative work submitted on VHS, DVD, DV, CD or DAT (in the case of audio productions). The sample should include one complete production and 10 minutes of excerpts from additional work. If relevant, still photographs or other material that demonstrates the applicant's creative talents and accomplishments may be submitted following consultation with the director of graduate studies. All materials should be labeled and include a content list, lengths, and the applicant's role in the production. Materials submitted will not be returned. Do not mail tapes in fiber-filled envelopes.
3. A writing sample representative of the applicant's best academic work in the field.
4. Three letters of recommendation from faculty. If the applicant has not attended an academic institution for the past four years or more, two of these letters may come from professional colleagues capable of commenting on the applicant's probability of success in a rigorous graduate program.
5. In specific instances, the Radio, Television and Film Graduate Committee may require an interview of applicants under consideration. This interview may take place in person, via videoconference or conference telephone call.
6. An applicant from outside the United States must demonstrate proficiency in oral and written English prior to admittance. In addition to GRE scores, international students must submit TOEFL scores.

Previous academic work and/or professional performance, as demonstrated in the portfolio of creative work submitted with the application, must indicate the potential for graduate work in a rigorous, production-oriented graduate program.

Degree Programs

Master of Arts, Master of Science

The master's degree requires the completion of at least 36 hours of graduate course work, including 6 hours of thesis credit. A satisfactory written thesis must be presented and defended. A student may also elect 6–12 hours in a minor area.

The MA requires completion of the equivalent of four terms/semesters of undergraduate language study, which may be completed in the undergraduate program or during graduate study at UNT. Other than this requirement, the curriculum for MA and MS students is the same.

Course Requirements

Students must take at least one course from each of the areas of graduate study emphasis (media industry studies, history and critical studies).

Students must take RTVF 5100 (Introduction to Graduate Study in RTVF) during their first fall term/semester enrolled as an RTVF graduate student and RTVF 5120 (Literature of RTVF I) and RTVF 5130 (Literature of RTVF II).

Master of Fine Arts

The primary educational objective of the Master of Fine Arts degree with a major in radio, television and film production is the academic, aesthetic and technical training of production professionals. In addition, the MFA degree is now the primary terminal degree for production faculty at college and university programs in the United States. This program emphasizes documentary production and studies and allows students to consider their roles in a globalized media environment.

The MFA requires 60 credit hours and will take approximately three years to complete.

Degree Requirements

Students must successfully complete a minimum of 60 semester hours: 36 hours of required courses, including 6 hours of MFA colloquium; 6 hours of prescribed electives; 12 hours of electives; and 6 hours of thesis.

Thesis Production

The capstone experience for each MFA candidate, the thesis is a major creative production (6 semester credit hours). A substantial written production book is to accompany the work and should include historical/theoretical context for the production, in addition to detailed documentation of the production process. The thesis should illustrate the student's ability to successfully execute professional-level production work of high quality, in addition to demonstrating the student's knowledge of production techniques and historical/theoretical perspective.

Transfer Credits

Policies and guidelines of the Toulouse School of Graduate Studies are followed when awarding transfer credit. Subject to approval of the graduate dean of the RTVF department, a student who holds a bachelor's degree and has been admitted to the Toulouse School of Graduate Studies and to the RTVF MFA program at UNT, may apply up to 12 semester hours of graduate credit toward the degree.

KNTU-FM

Radio station KNTU-FM, broadcasting at 100,000 watts on 88.1MHz, serves the Denton/Dallas/Fort Worth/McKinney area with educational, information and entertainment programming daily from 6 a.m. to midnight. All students at UNT are eligible to work at KNTU where they can learn skills in radio production, programming and station administration. More information is available at www.kntu.fm.

NTTV - North Texas Television

North Texas Television (NTTV) is a student-operated cable television channel where students learn to produce video programs in a wide range of topics and formats, including news, sports, public affairs and entertainment. All students at UNT are eligible to work at NTTV.

Graduate Assistantships

A limited number of graduate teaching and research assistantships are available for outstanding applicants. Decisions on assistantships are made in March for the following fall term/semester. An application form is available from the director of graduate studies.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Speech and Hearing Sciences

Main Departmental Office
Speech and Hearing Center, 260

P.O. Box 305010
Denton, TX 76203-5010
(940) 565-2481

Web site: www.sphs.unt.edu

Jeffrey A. Cokely, Chair

Graduate Faculty: Amlani, Cokely, Gopal, Jimenez-Castro, Lu, Schafer, Terrell.

The primary goal of the Department of Speech and Hearing Sciences is to prepare students to work professionally with communicatively handicapped individuals. The department provides course work, laboratory training and clinical practicum experiences that enable students to satisfy the educational and clinical requirements for national professional certification and state licensure in speech-language pathology, audiology, or both. A second and equally important mission of the department is the professional development of the discipline through research and clinical services.

Research

The Department of Speech and Hearing Sciences possesses research laboratory space and state-of-the-art equipment to conduct a wide range of investigations on both the normal and abnormal production, perception, recognition and understanding of speech and language. Research includes studies of auditory evoked potentials, stuttering, speech perception, articulation, language, motor speech disorders and vocal pathologies. Other ongoing research projects investigate communication assessment and rehabilitation techniques including hearing aids, auditory processing in children and adults, hearing loss in musicians in conjunction with the Center for Music and Medicine, and the investigation of auditory cortical neuron pattern processing studies being carried out in collaboration with the Department of Biological Sciences.

Accreditation

The graduate programs in both speech-language pathology and audiology are accredited by the Council on Academic Accreditation of the American Speech-Language-Hearing

Association (ASHA) [10801 Rockville Pike, Rockville, MD 20852; (800) 498-2071]. Students who earn the master's degree in speech-language pathology and the doctorate in audiology will be provided with the opportunity to meet the academic and clinical practicum requirements for ASHA's Certificate of Clinical Competence in their specialty areas. Those students whose programs of study at the master's or doctoral level satisfy the ASHA requirements will simultaneously satisfy the requirements for licensure by the State of Texas in the professional area of the student's degree program.

Admission Requirements

Admission to the graduate degree program in speech and hearing sciences is competitive. Available facilities and clinical resources do not permit admission of all qualified applicants.

Admission forms may be obtained from the Dean of the Toulouse School of Graduate Studies, from the Department of Speech and Hearing Sciences or from the department's web site. All required materials should be filed by February 15 for admission in the following fall term/semester for speech-language pathology, and by March 1 for audiology. Admission is granted in the spring term/semester for speech-language pathology only. Completed applications should be filed by October 1. Audiology students are admitted only in the fall term/semester. All required material (including GRE scores) must be on file before prospective applicants will be considered for admission. Undergraduates who plan to apply for graduate study should arrange to take the GRE during their junior or senior year.

In addition to the admission requirements of the graduate school, the department requires the following.

1. A grade point average (GPA) of at least 3.0 on the last 60 hours of undergraduate work or an overall GPA of 2.8 on all undergraduate work.
2. A GPA of at least 3.0 on all speech and hearing sciences course work, including those courses taken to remove undergraduate deficiencies.
3. All students must submit satisfactory scores on the Graduate Record Examination (GRE) prior to admission. Students will not be provisionally admitted to the master's programs in speech pathology or audiology. For standardized admission test requirements, contact the department or the Toulouse School of Graduate Studies.
4. Three satisfactory letters of recommendation, including one from the last academic institution attended.

Letters of recommendation should be addressed to: Director of Graduate Studies, Department of Speech and Hearing Sciences, University of North Texas, P.O. Box 305010, Denton, TX 76203-5010.

In all cases, the department maintains the right to make independent inquiry of the applicant's references and the faculties of institutions previously attended as well as to deny admission to an applicant who, in its judgment, fails to meet personal or academic admission standards. In all cases the applicant is assured the right to due process.

Individuals applying to the graduate program in speech-language pathology without a minimum of 15 hours of undergraduate course work in speech and hearing sciences but who otherwise meet departmental GPA and GRE admission requirements will be required to complete at least 15 hours of course work at the undergraduate level in this discipline before proceeding to graduate study. Depending upon undergraduate preparation, additional undergraduate course work may be necessary to meet requirements for professional certification and licensing.

Individuals applying to the professional doctoral program in audiology without a minimum of 9 hours of undergraduate course work in speech and hearing sciences will be required to complete at least 9 hours of course work in this discipline. These courses may be taken concurrently with graduate-level courses in audiology.

Individuals, regardless of their prior undergraduate major, who do not meet the departmental GPA requirements and who still wish to enter the departmental graduate program, will be required to take a 30-semester-hour program of undergraduate course work in this discipline at the University of North Texas and earn a GPA of 3.0 or better. Individuals who successfully meet this requirement must resubmit their application for graduate admission to this program and will still be required to satisfy the departmental GRE requirements.

Students admitted to the Toulouse School of Graduate Studies as non-degree students are restricted from enrollment in the following:

- a. graduate-level courses in speech pathology and audiology; and
- b. SPHS 4060, 5060, 6010, or 6020 (clinical practicum) courses for either graduate or undergraduate credit.

Non-degree students who register for any of these courses will be subject to administrative withdrawal. Non-degree students may enroll in undergraduate courses for undergraduate credit only.

Degree Programs

The department offers graduate programs leading to the following degrees:

- Master of Arts, and
- Master of Science, both with a major in speech-language pathology; and
- Doctor of Audiology.

Speech-Language Pathology Program

- Master of Arts, and
- Master of Science.

Two options are available:

- 45 semester hours of courses plus clinical practicum, or
- 39 semester hours of courses plus 6 semester hours of thesis credit plus clinical practicum.

Each of these options includes 6 graduate semester hours in audiology.

A final written comprehensive examination is required of all students who do not write a thesis. Those who write a thesis will be examined by the thesis committee about the thesis topic. The comprehensive examination will focus upon the various content areas of speech-language pathology, including normal aspects of speech, language and hearing, rather than upon specific courses that may constitute an individual degree plan.

Audiology Program

The department offers the Doctor of Audiology (AuD) degree. This is a post-baccalaureate four-year degree and includes:

- 78 semester hours of academic courses, plus
- 36 semester hours of clinic courses and a clinic externship in the fourth year.

In most circumstances, all academic course work is to be completed in three years. Students in their fourth year of the program will complete a clinical residency. Prior to beginning the clinical residency, all students are required to complete a directed research project and pass a comprehensive written and practical examination.

Program Policies

1. All students must maintain a B average on all courses that receive graduate credit.
2. Students may earn a grade of C in no more than two graduate courses.
3. Students admitted to a graduate program should consider a clinical practicum an integral part of their graduate study. All speech and language pathology graduate students must enroll in SPHS 5060 for a minimum of six semester credit hours. All audiology doctoral students must enroll in SPHS 6010 through SPHS 6090 for a minimum of 36 semester credit hours. Degree candidates may petition the department chair in writing for an exemption from clinical enrollment. Such a petition should be submitted prior to the registration period of the term/semester for which an exemption is sought.

4. Students are expected to make satisfactory progress in clinical practicum throughout their program. If a student does not receive a passing grade in any term/semester, the student will not receive credit for the clinical clock hours.

5. A student may be removed from a speech and language pathology program in this department when failure to make satisfactory progress has been documented. Unsatisfactory progress shall be defined as:

- a. a grade of C or below in no more than two courses. This includes any and every course repeated for a higher grade as well as any course listed as a prerequisite for graduate study;
- b. a grade of NP in two or more enrollments of clinical practicum, SPHS 5060, or a grade of C in two or more enrollments of SPHS 6010 through SPHS 6090;
- c. a grade of C in an academic course and a grade of NP in clinical practicum, SPHS 5060, or a grade of C in SPHS 6010 through SPHS 6090;
- d. unsatisfactory defense of a thesis; and
- e. failure to pass the comprehensive examination after three attempts within a twelve-month period.

6. Students may appeal any decision made upon the basis of these department policies. Such an appeal should be made in writing to the chair of the department. Appeals will be considered by the department according to the procedures set forth in the *Student Guide* and the *Faculty Handbook* of the university.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The “Course and Subject Guide,” found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.



College of Business Administration

Main Office
 Business Administration Building, 229
 P.O. Box 311160
 Denton, TX 76203-1160
 (940) 369-8977
 E-mail: MBA@cobaf.unt.edu
 Web site: www.coba.unt.edu/advising/MBA

Kathleen B. Cooper, Dean
 Mary Thibodeaux, Associate Dean
 Cengiz Capan, Associate Dean
 Derrick D'Souza, Associate Dean

Mission

The mission of the University of North Texas College of Business Administration is to create, extend, and transfer knowledge through bachelor's, master's and doctoral education, research, service and collaboration with the larger business community.

Vision

The Vision of the University of North Texas College of Business Administration is to be the leading comprehensive college of business administration in the North Texas region and to have a national and international reputation. We will produce graduates who have the capabilities, knowledge and character to succeed in their chosen fields in today's technological and global business environment. We will support faculty who produce quality scholarly work that enhances the educational experience of our students and is of value to business. We will provide outreach services to alumni and other relevant stakeholders.

The College of Business Administration offers graduate programs leading to the following degrees:

- Executive Master of Business Administration with a major in management (program not currently accepting students);
- Master of Business Administration with a major in business administration;
- Master of Business Administration with a major in finance;
- Master of Science with majors in accounting, decision technologies, finance, information technologies, real estate and taxation;
- Dual programs (MBA/MS) with engineering technology, hospitality management and merchandising; and
- Doctor of Philosophy with majors in accounting, business computer information systems, finance,

management, marketing and operations management science.

Concentrations at the master's level are available in accounting, strategic management, health services management, organizational behavior and human resource management, marketing, operations and supply chain management, logistics and supply chain management, e-business, decision sciences, decision technology and information technology.

The college is accredited by the AACSB International — The Association to Advance Collegiate Schools of Business [777 South Harbour Island Blvd., Suite 750, Tampa, FL 33602; (813) 769-6500] at both the undergraduate and graduate levels.

The Department of Accounting holds professional accreditation by the AACSB International — The Association to Advance Collegiate Schools of Business at both the undergraduate and graduate levels.

Responding to a great demand by people employed in the Dallas–Fort Worth–Denton area, the College of Business Administration inaugurated an evening schedule of graduate classes in 1960. Since that time, individuals employed on a full-time basis have been able to earn Master of Business Administration or Master of Science degrees by scheduling classes entirely in the evenings. Courses are also available in the afternoon, online and on Saturdays.

For further information about evening and Saturday classes, contact the College of Business Administration (COBA) Graduate Programs Office or the dean of the Toulouse School of Graduate Studies.

Admission Requirements

Admission Deadlines

Before being admitted to either a master's or a doctoral program in the College of Business Administration, the applicant must meet the requirements for admission to the Toulouse School of Graduate Studies.

All students seeking on-time registration must submit application materials according to the dates specified in the Admission section of this catalog. PhD candidates must submit application materials by April 1 to be considered for the following fall. Students submitting applications after these dates, if accepted, will have to register during the late registration period and pay a late registration fee.

Criteria for Admission to Master's Degree Programs

In the determination of an applicant's eligibility for admission to the College of Business Administration for the MBA/MS degree, the following measures are of critical importance.

1. Overall undergraduate grade point average (GPA) or GPA on approximately the last 60 semester hours.

(The academic record must meet minimum requirements of the Toulouse School of Graduate Studies.)

2. A satisfactory score on the Graduate Management Admission Test (GMAT) or Graduate Record Examination (GRE). Scores more than 10 years old (seven years for the Master of Science with a major in accounting) at the time of application for admission will not be considered.

3. Applicants whose native language is not English must either present a score of at least 550 (paper version) or 213 (computer version) on the Test of English as a Foreign Language or be a graduate of a college or university in the United States.

Procedure for Applying

Students may enter the master's degree programs at the beginning of any term/semester or summer sessions. Applicants should complete the requirements listed below and meet the deadlines set forth in "Admission Deadlines" above.

1. Obtain admission to the university and the Toulouse School of Graduate Studies by filing the following items with the Toulouse School of Graduate Studies:

- complete official transcripts of college and university credits;
- online application for admission to the Toulouse School of Graduate Studies; and
- results of the Graduate Management Admission Test.

Information about the GMAT may be obtained from the Toulouse School of Graduate Studies or the COBA Graduate Programs Office. Undergraduate students who intend to enter a master's degree program in the College of Business Administration should take the GMAT in the final term/semester of the senior year. Students who hold an undergraduate degree and intend to enter a master's degree program in the College of Business Administration must file a GMAT score in sufficient time for the graduate admission application to be considered prior to the term/semester of intended first enrollment.

2. The following additional admission materials are submitted to the COBA Graduate Programs Office:

- essay – please share with the admissions committee any unique events, life experiences, and qualifications that you feel distinguish your candidacy and will add value to the class;
- three letters of recommendation; and
- resume (work/academic experience). Applications forwarded by the Toulouse School of Graduate Studies cannot be considered until the above information is submitted.

Applications and supporting documentation will be reviewed by the COBA admission committee. The Graduate Programs Office will notify applicants of their status once the information has been reviewed. Applicants may also check the status by visiting my.unt.edu.

Students admitted under the graduate non-degree (GNDE) classification may take up to 12 hours of 5000-level business courses prior to admission in the MBA or MS programs. The 12 hours chosen may consist of the background courses or the 36 hours required of the MBA/MS degree. **No additional 5000-level business courses may be taken prior to admission to a graduate degree program.** See the graduate academic adviser for further information.

Comprehensive Examination

Candidates in all business administration MBA degree programs and the MS accounting program are required to complete BUSI 5190, Administrative Strategy, with a minimum grade of C for the course and a minimum grade of B for the comprehensive experience. Candidates in the MS programs will take a capstone course specified by the major. These courses must be taken during the student's last term/semester in order to meet the comprehensive examination requirement of the College of Business Administration and the Toulouse School of Graduate Studies.

The COBA Graduate Programs Office can furnish information concerning the comprehensive examination.

Minimum Academic Standards for Master's Students

The master's programs in the College of Business Administration require that a student maintain a minimum grade point average of 3.0 (B) or better. The master's program committee of the College of Business Administration will recommend withdrawal of a student from the master's program if the student receives two course grades below C (for purposes of this rule, the first grade received in a course is used).

Master's students may not graduate with more than two C's in their program requirements, although a course may be repeated to raise a grade of C or less.

Master's students whose academic performance falls below a cumulative 3.0 GPA on all graduate work attempted will be notified by the COBA Graduate Programs Office that they have been placed on academic probation. Probationary students will be blocked for registration purposes and must meet with their departmental adviser to have the block removed. Students who register for courses other than those permitted by advisement will be administratively withdrawn from the courses.

The probation status is removed when the student's cumulative GPA on all graduate work attempted has been raised to 3.0 or better.

Students will remain on probation and be allowed to re-enroll for a subsequent term/semester as long as they achieve a minimum 3.0 GPA on all graduate work attempted during the term/semester even if their overall graduate GPA remains under 3.0.

Students on probation who fail to make a 3.0 GPA in graduate work attempted during a term/semester (fall, spring or summer) will be notified by the COBA Graduate Programs Office that they have been placed on academic suspension for one long term/semester (fall, spring or summer) during which the student may not enroll at UNT.

Probationary students who have previously been placed on suspension will be notified by the COBA Graduate Programs Office that they have been terminated from the program should they fail to make a 3.0 GPA on all graduate work attempted during an academic term/semester (fall, spring or summer). A suspended student may reapply to a College of Business Administration master's program after a period of three years from the date of suspension.

Course work taken at another university by a student on suspension cannot be applied toward the degree program.

Degree Programs Master of Business Administration Objectives

The complexities of the economic, social and scientific world of today are increasing the demand of the business community for students with advanced business degrees. The overall objective of the graduate program leading to the Master of Business Administration degree is to prepare its graduates to serve effectively in the business world or in the business aspects of government or other agencies. The specific objectives are as follows:

1. to provide the candidate with the theory, principles and knowledge required for effective management of modern business;
2. to develop an appreciation for the role and responsibilities of business leaders in the social and economic order; and
3. to foster the techniques of basing decision and action on careful analysis of pertinent data.

Background Requirements

A bachelor's degree from an accredited institution and admission to the UNT Toulouse School of Graduate Studies are needed for graduate standing. The Master of Business Administration degree requires, as a minimum background, the equivalent of the Common Body of Knowledge in Business

Administration. Students may have acquired this background in their undergraduate programs by the completion of courses equivalent in content to UNT's business foundation requirements for the bachelor's degree in business administration.

Graduate students should remove any deficiencies by completing special courses at the 5000 level designed for this purpose. Contact the COBA Graduate Programs Office for any current changes in these courses. These graduate courses in the College of Business Administration, plus the background courses in economics and mathematics follow.

- DSCI 5010, Statistical Analysis (1.5 hours)
- ACCT 5020, Accumulation and Analysis of Accounting Data (1.5 hours)
- FINA 5040, Introduction to Finance and Financial Mathematics (1.5 hours)
- BLAW 5050, Legal, Regulatory and Ethical Environment of Business (1.5 hours)
- MGMT 5070, Management Issues (1.5 hours)
- MKTG 5000, Marketing Concepts (1.5 hours)
- BCIS 5090, Introduction to Business Computer Information Systems (1.5 hours)
- ECON 5000, Economic Concepts (3 hours)
- MATH 1190, Business Calculus (3 hours)

In addition to the core topics shown above, the nature of the MBA program requires that the student possess a proficiency in computer skills, including word processing, spreadsheet and database software. Finally, the program requires students to possess communication skills that allow one to identify relevant information and, in turn, to provide that information to others in written or verbal format. It is the student's responsibility to acquire these competencies prior to taking courses in the program of study. These competencies will be assumed. However, the departmental advisers will recommend courses for students not possessing the competencies.

Additional advanced undergraduate courses in the proposed major field may be required as prerequisite work of students who have a different specialization at the undergraduate level or who hold a bachelor's degree in some area other than business administration.

Background requirements must be removed prior to enrollment in courses that count as part of the 36 semester hours required for a master's degree, unless the consent of the departmental adviser is first obtained.

Program Requirements

Students are required to complete the following core courses.

- ACCT 5130, Accounting for Management
- MGMT 5140, Organizational Behavior and Analysis
- MKTG 5150, Marketing Management
- FINA 5170, Financial Management

- DSCI 5180, Introduction to Decision Making
- BUSI 5190, Administrative Strategy (must be taken the final term/semester)

The remaining 18 hours of graduate course work may be used to pursue specialized interests in the following areas of concentration.

- Accounting
- Strategic management
- Finance
- Health services management
- Organizational behavior and human resource management
- Marketing
- Operations and supply chain management
- E-business
- Logistics and supply chain management
- Decision sciences
- Decision technology
- Information technology

Program Approval

Each graduate student must receive counseling prior to registration each term/semester.

During the first term/semester of a master's program, the student must submit a degree plan through the departmental adviser. The degree plan must be approved by the associate dean of the COBA Graduate Programs Office and by the Toulouse School of Graduate Studies. A maximum of 9 hours of transfer work may be applied toward the 36-hour portion of the program. The final decision on applicability of transfer work rests with the departmental adviser.

To enroll in graduate courses, the student must be counseled by a departmental adviser. Any degree plan change must have prior consent. Specific information about degree plan changes may be obtained from the departmental adviser or the COBA Graduate Programs Office.

Admission to candidacy is granted by the dean of the Toulouse School of Graduate Studies only after the degree plan has been approved.

Concentrations for the MBA Degree

The terms *concentrations* (MBA degree programs) and *majors* (MS degree programs) are used to designate the primary area of study.

For specific course and concentration/major requirements, see the respective departmental sections that follow.

Master of Science with a Major in Accounting

The Master of Science with a major in accounting is designed to provide an appropriate base of knowledge for entry into the accounting profession. Students earning this degree will have completed an educational program consistent with recommendations from

professional accountants and accounting educators, and will be prepared for entry into careers as professional accountants either in the public or private sector.

The program is open to any qualified student who has an interest in professional accounting, regardless of the student's previous program of study. Every student completing the program will have fulfilled the professional program requirements outlined below.

Prospective students may contact the COBA Graduate Programs Office for an estimate of the program requirements and the length of time required to complete the program.

Admission Requirements

Students may apply for admission to the MS program in either of two ways. Students pursuing the five-year, 150-semester-hour program are admitted to the graduate portion of the program upon satisfactory completion of 103 hours of the 114-hour undergraduate portion of the professional program. Students who previously have earned a baccalaureate (or higher) degree from an accredited institution in any discipline may apply for admission directly to the graduate portion of the program.

Students who meet the following requirements may be admitted to the MS with a major in accounting program:

1. admission to UNT and to the Toulouse School of Graduate Studies as specified previously in this section; and
2. The following additional admission materials are submitted to the COBA Graduate Programs Office:
 - a. essay – Please share with the admissions committee any unique events, life experiences, and qualifications that you feel distinguish your candidacy and will add value to the class;
 - b. three letters of recommendation; and
 - c. resume (work/academic experience).

Applications forwarded by the Toulouse School of Graduate Studies cannot be considered until the above information is submitted.

The applications and supporting documentation will be reviewed by the COBA admission committee. The Graduate Programs Office will notify applicants of their status once the information has been reviewed. Applicants may also check the status by visiting my.unt.edu.

Degree Requirements

The student earning the MS with a major in accounting must meet the following requirements:

1. completion of leveling courses in accounting and business as necessary;
2. completion of at least 36 semester hours of graduate work beyond leveling courses assigned by the department;

3. a GPA of at least a 3.0 on all graduate work taken at UNT;
4. a GPA of at least a 3.0 on all accounting courses taken at UNT after admission to graduate school;
5. a GPA of at least a 3.0 on all courses taken for graduate credit;
6. at least 15 hours in 5000-level accounting courses at UNT; and
7. minimum academic standards for master's students.

Background Courses

Students entering the MS with a major in accounting, after obtaining an undergraduate degree, may need to complete background courses in accounting or business before beginning the 36-hour program of study. Some or all of the following courses may be assigned to remedy deficiencies.

- MATH 1190, Business Calculus
- ACCT 5020, Accumulation and Analysis of Accounting Data

For all graduate courses it is presumed that the student has completed general and/or accounting deficiency course work as assigned upon admission.

- ACCT 5110, Fundamentals of Accounting Research
- ACCT 5120, Using Information Systems in Accounting
- ACCT 5300, Federal Taxation of Income
- ACCT 5630, Accounting Systems and Controls
- BCIS 5090, Introduction to Business Computer Information Systems (1.5 hours)
- BLAW 5050, Legal, Regulatory and Ethical Environment of Business (1.5 hours)
- FINA 5170, Financial Management
- MGMT 5070, Management Issues (1.5 hours)
- MKTG 5000, Marketing Concepts (1.5 hours)
- DSCI 5010, Statistical Analysis (1.5 hours)
- ECON 5000, Economic Concepts

The Professional Program

The 36-hour program for the MS in accounting varies with the concentration chosen. However, a minimum of 15 semester hours of 5000-level accounting must be taken. General requirements include the following:

Accounting Requirements

- ACCT 5110, Fundamentals of Accounting Research
- ACCT 5120, Using Information Systems in Accounting
- ACCT 5760, Contemporary Issues in Accounting
- Accounting concentration (9 semester hours) (see below)

Other Requirements

- BUSI 5190, Administrative Strategy (must be taken in term/semester of graduation)
- Approved electives (9–18 hours)

Presently the department offers concentrations in:

- Audit and financial accounting
- Managerial accounting systems
- Entrepreneurial perspectives
- Accounting information systems

Detailed information on requirements of each concentration is available from the COBA Graduate Programs Office.

Students with areas of interest not represented above are invited to consult with an accounting adviser.

Master of Science with a Major in Taxation

Detailed information on requirements for this major are available from the College of Business Administration Graduate Programs Office.

Master of Science with a Major in Decision Technologies

The Master of Science with a major in decision technologies is designed to provide an appropriate base of knowledge for entry into the decision sciences profession. The program is intended for those students who desire a strong, specialist degree in operational and strategic decision making. Decision technologies blends theory and application, using modeling techniques to structure management problems and decisions. It combines information technology, computer science, statistics, management science, operations research and problem solving. Decision technologies studies individual and group decision making, expert and decision support systems, and human interaction with technology in all areas of business. Because of its specialization and focus, the Master of Science with a major in decision technologies differs significantly from an MBA program, which is designed for those students who desire a more general management background.

Admission Requirements

Students seeking a Master of Science with a major in decision technologies must satisfy the admission requirements of the College of Business Administration.

Degree Requirements

The student earning the MS with a major in decision technologies must meet the following requirements:

1. completion of background courses in BCIS and business as necessary;

2. completion of at least 36 semester hours of graduate work beyond background courses assigned by the department;
3. a GPA of at least a 3.0 on all graduate work taken at UNT;
4. a GPA of at least a 3.0 on all BCIS courses taken at UNT after admission to graduate school;
5. a GPA of at least a 3.0 on all courses taken for graduate credit; and
6. minimum academic standards for master's students.

Background Requirements

A bachelor's degree from an accredited institution and admission to the Toulouse School of Graduate Studies are needed for graduate standing. The Master of Science with a major in decision technologies degree requires the following business courses:

- ACCT 5020, Accumulation and Analysis of Accounting Data (1.5 hours)
- BCIS 5090, Introduction to Business Computer Information Systems (1.5 hours)
- BLAW 5050, Legal, Regulatory and Ethical Environment of Business (1.5 hours)
- MGMT 5070, Management Issues (1.5 hours)
- MKTG 5000, Marketing Concepts (1.5 hours)
- DSCI 5010, Statistical Analysis (1.5 hours)
- FINA 5040, Introduction to Finance and Financial Mathematics (1.5 hours)
- MATH 1190, Business Calculus (3 hours)

Students may have acquired this background in their undergraduate programs by the completion of courses equivalent in content to UNT's business foundation requirements for the bachelor's degree in business administration. In addition, students are required to have a working knowledge of computer-based business tools and at least one course in a programming language (C, C++, COBOL or a similar language).

Program Requirements

Foundation Sequence (12 hours)

- DSCI 5180, Introduction to Decision Making
- DSCI 5210, Model-Based Decision Making
- DSCI 5240, Data-Based Decision Systems
- DSCI 5260, Problem Solving and Decision-Making Process (capstone course)

Major Elective Sequence (12 hours)

- DSCI 5220, Statistical Sampling
- DSCI 5250, Statistical Techniques in Simulation
- DSCI 5320, Quality Control
- 3-hour DSCI elective, selected in consultation with adviser

Application (12 hours)

Twelve hours of electives must be selected from business, computer science or engineering technology that

are technically oriented, complementary to the program and approved by the department as elective courses.

Students who have already taken the equivalent of any foundation course will substitute an appropriate course, subject to approval by the Department of Information Technology and Decision Sciences.

Master of Science with a Major in Finance

The Master of Science with a major in finance is designed to provide advanced study for the person interested in developing skills in this specific area. Intended for students desiring a strong concentration in finance, the focus of the program allows the student to gain considerable expertise in the area in a relatively short period of time. A minimum of 30 hours is required to complete the program.

Admission Requirements

Students seeking a Master of Science with a major in finance must satisfy the admission requirements of the College of Business Administration.

Background Requirements

A bachelor's degree from an accredited institution and admission to the Toulouse School of Graduate Studies are needed for graduate standing. Students who do not have a bachelor's degree in a business field from an accredited institution may be required to complete some or all of the following courses as determined by the department:

- ACCT 5020, Accumulation and Analysis of Accounting Data (1.5 hours)
- ECON 5000, Economic Concepts (3 hours)
- FINA 5040, Introduction to Finance and Financial Mathematics (1.5 hours)
- FINA 5170, Financial Management (3 hours)
- DSCI 5180, Introduction to Decision Making (3 hours)
- MATH 1190, Business Calculus (3 hours)

Degree Requirements

Required Courses (15 hours)

- FINA 5210, Investment Analysis and Management
- FINA 5220, Theory and Application of Financial Derivatives
- FINA 5310, Advanced Topics in Financial Management
- FINA 5400, Global Financial Markets and Institutions
- FINA 5500, International Financial Management

Elective Courses

Students will select at least four elective courses to complete at least 27 hours of the minimum 30-hour requirement for the degree. The capstone course below comprises the remaining 3 hours. DSCI 5180 is the only prerequisite course that may be used as an elective. The following are some possible elective choices,

but other courses would be considered subject to the approval of the major field adviser.

- FINA 5410, Advanced Management of Financial Institutions
- FINA 5510, Theory of Finance
- DSCI 5210, Model-Based Decision Making
- DSCI 5240, Data-Based Decision Systems

Capstone Course (3 hours)

Prerequisites for the capstone course are FINA 5210, 5310, 5400 and 5500. This course must be taken your final term/semester.

- FINA 5700, Integrative Capstone Course

Master of Science with a Major in Information Technologies

The Master of Science with a major in information technologies is designed to provide an appropriate base of knowledge for entry into the management information systems profession. The program is intended for those students who desire a strong, specialist degree in the strategic management of information technology. Because of its specialization and focus, the Master of Science with a major in information technologies differs significantly from an MBA program, which is designed for those students who desire a more general management background.

Admission Requirements

Students seeking a Master of Science with a major in information technologies must satisfy the admission requirements of the College of Business Administration.

Degree Requirements

The student earning the MS with a major in information technologies must meet the following requirements:

1. completion of leveling courses in BCIS and business as necessary;
2. completion of at least 36 semester hours of graduate work beyond leveling courses assigned by the department;
3. a GPA of at least a 3.0 on all graduate work taken at UNT;
4. a GPA of at least a 3.0 on all BCIS courses taken at UNT after admission to graduate school;
5. a GPA of at least a 3.0 on all courses taken for graduate credit; and
6. minimum academic standards for master's students.

Background Requirements

A bachelor's degree from an accredited institution and admission to the Toulouse School of Graduate Studies are needed for graduate standing. The Master

of Science with a major in information technologies degree requires the following business courses:

- ACCT 5020, Accumulation and Analysis of Accounting Data (1.5 hours)
- BCIS 5090, Introduction to Business Computer Information Systems (1.5 hours)
- BLAW 5050, Legal, Regulatory and Ethical Environment of Business (1.5 hours)
- MGMT 5070, Management Issues (1.5 hours)
- MKTG 5000, Marketing Concepts (1.5 hours)
- DSCI 5010, Statistical Analysis (1.5 hours)
- FINA 5040, Introduction to Finance and Financial Mathematics (1.5 hours)
- MATH 1190, Business Calculus (3 hours)

Students may have acquired this background in their undergraduate programs by the completion of courses equivalent in content to UNT's business foundation requirements for the bachelor's degree in business administration. In addition students are required to have a working knowledge of computer-based business tools and at least one course in a programming language (C, C++, COBOL or a similar language).

Program Requirements

Foundation Sequence (12 hours)

- BCIS 5110, Structure of Programming Languages
- BCIS 5120, Information Systems Development
- BCIS 5130, Fundamentals of Presentation Design
- BCIS 5420, Foundations of Database Management

Technology Sequence (12 hours)

- BCIS 5610, Executive and Decision Support Technologies
- BCIS 5620, Networking and Telecommunications
- BCIS 5630, N-Tier Systems
- BCIS 5640, Object Oriented Systems

Technology Management Sequence (12 hours)

- BCIS 5650, Emerging Information Technologies
- BCIS 5660, Data Administration and Project Management
- BCIS 5670, International Issues in Information Technology
- BCIS 5700, Strategic Use of Information Technology (capstone course)

Students who have already taken the equivalent of any foundation course will substitute an appropriate course, subject to approval by the Department of Information Technology and Decision Sciences.

Master of Science with a Major in Real Estate

The Master of Science with a major in real estate is designed to provide advanced study for current property professionals and for persons interested in developing their skills in this specific area. The program is intended

for students desiring a strong concentration in the real estate area. The focus of the program allows the student to gain considerable expertise in the area in a relatively short period of time. A minimum of 30 hours is required to complete the program. Students may transfer up to 6 hours of successfully completed previous courses with the approval of the department.

Background Requirements

A bachelor's degree from an accredited institution and admission to the Toulouse School of Graduate Studies are needed for graduate standing. Students who do not have a bachelor's degree in a business field from an accredited institution may be required to complete some or all of the following courses as determined by the department:

- ACCT 5020, Accumulation and Analysis of Accounting Data (1.5 hours)
- BCIS 5090, Introduction to Business Computer Information Systems (1.5 hours)
- BLAW 5050, Legal, Regulatory and Ethical Environment of Business (1.5 hours)
- FINA 5040, Introduction to Finance and Financial Mathematics (1.5 hours)
- MGMT 5070, Management Issues (1.5 hours)
- MKTG 5000, Marketing Concepts (1.5 hours)
- DSCI 5010, Statistical Analysis (1.5 hours)
- MATH 1190, Business Calculus (3 hours)

Degree Requirements

Foundation Courses (12 hours)

- FINA 5170, Financial Management*
- ACCT 5130, Accounting for Management*
- RMIN 5730, Risk Management
- BLAW 5770, Advanced Real Estate Law and Contracts

Students already possessing competency in the areas marked with an asterisk (*) may select a more advanced course in the area with the approval of the department.

Concentration Courses (18 hours)

- REAL 5350, Introduction to Real Estate and Investment Analysis
- REAL 5440, Advanced Real Estate Finance and Analysis
- REAL 5760, Advanced Real Estate Investments and Analysis
- REAL 4400, Real Estate Valuation (must be taken under the REAL 5900 designation)
- REAL 5780, Seminar in Real Estate Research (capstone course)
- Elective course selected with the approval of the department

Dual Programs

The College of Business Administration offers two dual programs in collaboration with the School

of Merchandising and Hospitality Management and one with the College of Engineering in engineering technology. The programs are as follows:

MBA (any professional field)/MS with a major in hospitality management

54 hours if background courses have already been completed.

- 16.5 hours in MBA background courses (outlined in previous section).
- 18 hours in required MBA core (outlined in previous section).
- 12 hours in a specified professional field (accounting; strategic management; finance; health services management; organizational behavior and human resource management; marketing; operations and supply chain management; e-business; logistics and supply chain management).
- 13 hours in MS background requirements (outlined in the School of Merchandising and Hospitality Management section of this catalog).
- 24 hours in required hospitality management (outlined in the School of Merchandising and Hospitality Management section of this catalog).

MBA (any professional field)/MS with a major in merchandising

54 hours if background courses have already been completed.

- 16.5 hours in MBA background courses (outlined in previous section).
- 18 hours in required MBA core (outlined in previous section).
- 12 hours in a specified professional field (accounting; strategic management; finance; health services management; organizational behavior and human resource management; marketing; operations and supply chain management; e-business).
- 12 hours in MS background requirements (outlined in the School of Merchandising and Hospitality Management section of this catalog).
- 24 hours in required merchandising (outlined in the School of Merchandising and Hospitality Management section of this catalog).

MBA (Operations and Supply Chain Management)/MS with a major in engineering technology

Total hours depends on selection of thesis or non-thesis MSET option.

- 12 hours in MBA background courses (outlined in previous section).
- 18 hours in required MBA core (outlined in previous section).
- 12 hours in required courses (MGMT 5240, 5280 and 5850, and DSCI 5210).
- Consult the Department of Engineering Technology for total hours to complete MSET.

Executive MBA Program

Program is not currently accepting students.

The Executive MBA Program provides an opportunity for experienced professionals to obtain a master's degree in business administration on a schedule that minimizes disruption of work and personal pursuits. Such programs typically include a cohort class structure that offers a lock-step, planned curriculum in an executive setting.

A unique aspect of the EMBA program is the collective-professional experience of its participants, which greatly enriches the educational environment. A team approach is often used to allow for sharing of diverse perspectives on various topics; this interaction results in challenging and stimulating learning experience providing for maximum return on time and resources invested.

Admission Requirements

A number of factors are considered in selecting candidates for an EMBA program. In most cases, each applicant is evaluated on his or her professional performance, academic records, GMAT scores, professional recommendations and a demonstrated ability to accomplish graduate-level course work. EMBA students enter the program with eight or more years of professional and/or managerial experience.

Evaluation of students for admission to an EMBA program is a very individualized process. While test scores, grade point averages and other objective criteria are all considered, a prospective student's background, work experience, career goals, desire to succeed and numerous other factors are considered in making an admission decision. Contact the COBA Graduate Advising Office for additional information.

EMBA Curriculum

Courses offered in an EMBA program are normally the same as those taught in traditional MBA programs—accounting, finance, statistics, management, marketing, and information systems, with specific course modules in addition to core courses offered. However, EMBA courses are enhanced by the extensive professional experience of the participants and are uniquely structured to teach a maximum amount of course material in an accelerated time table.

Program Requirements

Term/Semester One Courses:

- ECON 5000, Economic Concepts
- MKTG 5000, Marketing Concepts
- MKTG 5150, Marketing Management
- BLAW 5050, Legal, Regulatory and Ethical Environment of Business

Term/Semester Two Courses:

- DSCI 5010, Statistical Analysis
- ACCT 5020, Accumulation/Analysis of Accounting Data

- ACCT 5130, Accounting for Management
- DSCI 5180, Introduction to Decision-Making

Term/Semester Three Courses:

- MGMT 5070, Management Issues
- BCIS 5090, Introduction to Business Computer Information Systems
- MGMT 5140, Organizational Behavior and Analysis
- FINA 5170, Financial Management
- BCIS 5120, Information Systems Development

Term/Semester Four Courses:

- BUSI 5410, Creative Thinking and the Business Idea
- BUSI 5420, Assessing the Business Opportunity
- BUSI 5920, International Trip (Global Alliances and Strategic Management)

Term/Semester Five Courses:

- BUSI 5430, Designing, Creating and Managing the Delivery Systems
- BUSI 5440, Growing a Business in a Changing Environment
- Elective, determined with student input

Doctor of Philosophy

Objectives

The doctoral program in business administration is designed to prepare men and women of outstanding ability for careers in teaching and research at the university level. However, the program has enough flexibility to accommodate individuals whose career objectives lie outside academia. Individuals who undertake doctoral study are expected to achieve excellence in the command of the technical aspects of a business discipline and to develop expertise in the conduct of meaningful research.

Procedure for Admission

For admission consideration, the following items are required by the College of Business Administration Graduate Programs Office. The complete PhD application packet can be found at www.coba.unt.edu or may be requested by e-mail from PhDCOBA@unt.edu.

In the determination of an applicant's eligibility for admission to the College of Business Administration for the PhD degree, the following items are required:

1. Processed application for admission forwarded by the Toulouse School of Graduate Studies.
2. Provide the Toulouse School of Graduate Studies with an official copy of the score made on either the Graduate Management Admission Test (GMAT) or the Graduate Record Examination (GRE), an official copy of the TOEFL score, if required, and official transcripts from all universities previously attended. Any test scores (GMAT, GRE, TOEFL) submitted in support of an application for admission to the College of Business Administration PhD program must have been earned no more than five years prior to the date sought for admission.

3. Submit a completed Supplementary Information Form to the Graduate Programs Office, College of Business Administration.

4. Request three individuals (usually university professors) to complete and return a Doctoral Applicant Evaluation Form. These forms are available in the application package located on the web at www.coba.unt.edu or by request from the Graduate Programs Office in the College of Business Administration.

For further information concerning the doctoral program in business administration and specific admission requirements, contact: the Graduate Programs Office, College of Business Administration. Contact information and destination of documents are as follows:

Both U.S. and International Applicants

Graduate Programs Office – Doctoral Program
College of Business Administration
University of North Texas
P.O. Box 311160
Denton, TX 76203-1160

PhDCOBA@unt.edu

www.coba.unt.edu/phd

Phone: (940) 369-8977

Fax: (940) 369-8978

Submit a Supplementary Information Sheet (Form A), statement of purpose essay, resume and three recommendation letters using Doctoral Applicant Evaluation Forms (Form A-1).

U.S. Citizens Only

Toulouse School of Graduate Studies
Graduate Admissions Office
Eagle Student Services Center, Room 354
P.O. Box 305459
Denton, TX 76203-5459

gradschool@unt.edu

www.gradschool.unt.edu

Phone: (940) 565-2636 or toll-free (888) UNT-GRAD [868-4723]

Submit a U.S. application, fee, official transcripts and official GMAT or GRE.

International Applicants Only

International Admissions Office
University of North Texas
Kendall Hall, Room 173
P.O. Box 311067
Denton, TX 76203-1067

International@isp.admin.unt.edu

Phone: (940) 565-2442

Submit an International Application, fee, official transcripts, official TOEFL, financial statement, and official GRE or GMAT. (Please note that all official GRE and GMAT scores are received by the Toulouse School of Graduate Studies, listed above.)

Retention Policy for Doctoral Programs in Business Administration

If during any long term/semester (fall or spring) a PhD student does not enroll in any approved course work, the student must file a leave of absence form (Form E); otherwise, the student will be placed on inactive status. After two long terms/semesters in sequence in inactive status, the student will be removed from the PhD program.

Residence Requirement

While completing course work, every student is required to complete a minimum residency requirement consisting of two consecutive terms/semesters with a minimum course load of 9 hours each term/semester. This can consist of spring and fall, fall and spring, spring and summer, or summer and fall, with the summer counting as a single term/semester.

Research Tool Requirement

The doctoral program in business administration requires satisfactory completion of a research tool requirement.

Program Requirements

The doctoral student must select a major field of study in one of the following program areas: accounting, business computer information systems, finance, management, marketing, or management science. With the approval of an academic adviser, the student will select courses in a supporting area. These courses may come from more than one business administration program area.

Program requirements are designed to accommodate the career plans and background of the student and, at the same time, meet the specific standards and requirements of the student's program area. Competence achieved, rather than a specific number of hours completed, is the prime criterion; however, a minimum of 69 hours of graduate credit beyond the master's degree or 99 hours beyond the bachelor's degree must be earned.

Students entering the doctoral program after receiving a master's degree will take 9 hours of foundation course work and 24 hours in major and minor areas for a total of at least 33 hours, a research track of 12 hours, a minimum of 12 hours of pre-dissertation research and a dissertation of 12 hours. The pre-dissertation requirement may be met by 12 hours of research seminars (6910) and independent study (6940). The minimum course work consists of the following (69 hours minimum):

- Foundation courses, 9 hours
- Research track, 12 hours
- Major and minor areas, 24 hours
- Pre-dissertation research, 12 hours
- Dissertation, 12 hours

The above may include no more than 12 semester hours of 5900, 5910, 6900 and 6910 credit prior to pre-dissertation research.

The foundation courses required of all College of Business Administration doctoral students consist of the following:

- BUSI 6450, Business Research Methods
- BUSI 6460, Foundations of Scientific Inquiry
- BUSI 6100, University Teaching for Business Administration

The two research tracks consist of 12 hours of course work designed to develop the research capabilities of the student and to prepare the student for conducting research of dissertation quality. The student's choice of track must be approved by the major area PhD coordinator. The two tracks are described below:

1. **Research Track I** (12 hours): BUSI 6220, Applied Regression Analysis (3 hours); BUSI 6480, Advanced Issues in Research Design (3 hours); BUSI 6240, Applied Multivariate Statistics (3 hours); and BUSI 6280, Applications in Causal and Covariance Structure Modeling (3 hours).
2. **Research Track II** (12 hours): ECON 5600, Mathematical Economics (3 hours); ECON 5650, Advanced Econometrics (3 hours); methodological tool elective (3 hours); and MSCI 6000, Theory and Application of Nonparametric Statistics (3 hours).

Students entering the doctoral program upon completion of a bachelor's degree must complete the MBA core requirements and 12 additional hours in the major and/or minor areas. In addition, all students must demonstrate a calculus proficiency.

The qualifying examination, given upon completion of all course work, is designed to measure attainment of expected levels of knowledge in the major and minor areas and to determine the student's ability to synthesize information acquired. The examination is both written and oral. Candidates who have taken the qualifying examination may not change their major.

Specific procedural, academic progression and administrative requirements of the doctoral program are listed in the Handbook for Doctoral Students, available in the COBA Graduate Programs Office. All students, at the time of admission, are responsible for obtaining a copy of the Handbook for Doctoral Students to familiarize themselves with all requirements.

Admission to Candidacy

Admission to candidacy is granted by the dean of the Toulouse School of Graduate Studies after satisfactory completion of the qualifying examination.

Dissertation

Upon admission to candidacy and with the consent of the student's committee, the student is

required to make a formal presentation of the dissertation proposal at an open forum consisting of graduate faculty of the College of Business Administration and other doctoral students.

As a final requirement, each candidate submits a dissertation. Completion of the dissertation requires original and independent research in the major program area. It should reflect not only a mastery of research techniques, but also an ability to identify an important problem for investigation and to design research that permits the formulation of reasonable hypotheses and the drawing of logical conclusions related to the problem identified. A final comprehensive examination, primarily a defense of the dissertation, is scheduled in coordination with the Graduate Programs Office and the Toulouse School of Graduate Studies.

Teaching Fellowships

Departmental chairpersons assign teaching assistantships and fellowships based on departmental needs.

College of Business Administration Computing Center

College of Business Administration Information and Learning Technologies Center

Cengiz Capan, Director

The Information and Learning Technologies Center of the College of Business Administration is housed in the Business Administration Building and comprises a full-time director, a computer systems manager, three computer support specialists and an administrative services officer. A technical support team of three or more upper-division and graduate business students aids the full-time staff in installations, troubleshooting, and working with faculty and staff when problems or questions arise concerning hardware or software. More than 500 Pentium desktop systems in the Business Administration Building and Curry Hall are networked together with a four-node, high-availability cluster under a Novell 6.5 operating system using dual Xeon Compaq/HP servers, each with at least 3 gigabytes of memory and a total of 400 gigabytes in an external storage area network (SAN) disk array. Each of the of the desktop systems is configured as follows: 2 GHz CPU, 80 gigabyte hard drive, 512 megabyte memory, 17-inch flat panel LCD monitors, CD-RW drive, ZIP drive, and 100-megabit network interface cards.

The College of Business Administration provides more than half of the above systems in student labs that are open 100 hours per week and staffed by 50 student lab monitors. These labs are divided into two major areas. The General Access Labs consist

of more than 90 computers in three rooms and are designed for the general business student who is required to use computers but may be used by all UNT students. The Business Labs consist of more than 170 computers in seven rooms in three different areas of the Business Administration Building and Curry Hall. These labs are designed for and limited to students taking College of Business Administration courses. The primary Business Lab has 40 systems and includes software to emulate a mainframe environment for appropriate courses. The Special Lab has 18 systems and is designed exclusively for students taking senior- or graduate-level classes such as Introduction to Database Applications; Distributed Systems and Teleprocessing; Data Communications and Networking; Information Resource Management; Decision Support Systems; and Visual Display. The Curry Hall Team Lab provides 20 team cubicles for team projects. Each cubicle consists of two computers and as many as six chairs. There is also a hands-on classroom consisting of 48 student computers, an instructor's system and data projector.

Professional Development Institute

Ken Robertson, President

Since 1973, the Professional Development Institute (PDI) has provided education, information and training. By attending PDI programs, more than 500,000 professionals, managers and salespeople have gained tools and ideas that increase individual and company performance. PDI works with a diverse network of leading experts from around the world to provide solution- and results-oriented programs.

Working closely with experts in a variety of industries, PDI understands the critical issues and defines the educational needs of professionals within an organization. PDI works directly with clients to further specify and define the needs particular to the customer's organization. Once needs have been determined, PDI develops and designs educational tools and training and works in conjunction with leading industry, academic and governmental experts globally to provide targeted results.

PDI assists employees in being more efficient and effective. Instructors and staff are in constant contact to ensure that programs address issues and help create solutions. Programs enable employees to immediately utilize the information and positively impact the bottom line.

Institute of Petroleum Accounting

Teddy L. Coe, COPAS of Dallas/PDI Professor of Accounting and Director

The Institute of Petroleum Accounting is a unique organization funded primarily by companies in the

petroleum and mining industries. The institute began operations in September 1980, with three principal objectives:

1. to carry out research and encourage others to carry out research in accounting, finance, taxation and economic problems of the extractive industries;
2. to disseminate information about research activities of the institute and about current developments in accounting, finance, taxation and economic aspects of the extractive industries; and
3. to encourage universities and colleges to become actively involved in educational programs related to the extractive industries.

Research fellowships, up to \$20,000 per year, are available to students involved in research in the extractive industries.

Beta Gamma Sigma

This national honorary society of business administration students was founded in 1913. The UNT chapter was established in 1962. The primary objective of Beta Gamma Sigma is to encourage and honor high academic achievement by students of business and management through chapters in all American Assembly of Collegiate Schools of Business accredited schools. Membership is a signal honor and is limited to outstanding students who show promise of success in the field of business and who rank in the upper 10 percent of their junior, senior or graduate class. More information may be obtained from the dean's office in the College of Business Administration.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Accounting

Main Departmental Office
Business Administration Building, 215

P.O. Box 305219
Denton, TX 76203-5219
(940) 565-3080

Web site: www.coba.unt.edu/acct

Graduate Programs Office
Business Administration Building, 229
(940) 369-8977

O. Finley Graves, Chair

Graduate Faculty: Clay, Coe, Conover, Curtis, Graves, Hutchison, Klammer, Lee, Mayper, Merino, Plummer, Price, Raman, Wilner.

Mission in Brief

The mission of the professional programs in accounting at the University of North Texas is to prepare a diverse student body for careers in industry, public accounting and the nonprofit sector, primarily in the North Texas region.

The mission of the doctoral program in accounting at the University of North Texas is to prepare students to conduct discipline-based research, to appreciate a variety of research methods and to engage in quality instructional activities.

Research

The research interests of the faculty of the Department of Accounting are eclectic. Faculty currently are engaged in behavioral, empirical, historical and theoretical research related to a broad range of academic and professional topics.

Current behavioral research efforts focus on application of cognitive models, venture theory and prospect theory to audit techniques, decision models, financial accounting standards, managerial performance evaluation and tax compliance issues. Empirical research is being conducted in the areas of international accounting and taxation for multinational corporations, governmental auditing, and the impact of governmental standards on borrowing costs, oil and gas standards and regulation, pensions, post-employment benefits and audit risk assessment. Historical research focuses on demand for audit services, regulatory legislation and analysis of the role of the professional accountant. Theoretical research is being conducted in the areas of public interest accounting, audit failure, ethical standards and development of expert systems. Research also is being

conducted in the professional areas of cash flow, savings and loan problems and capital budgeting.

The Institute of Petroleum Accounting supports a wide variety of faculty research related to the oil and gas industry. The institute publishes the *Petroleum Accounting and Financial Management Journal*, and several faculty members conduct sponsored research to provide solutions for practical accounting and tax problems that emerge in the oil and gas sector. Ongoing research efforts continue in the areas of auditing and accounting standard setting, taxation, and management decision making related to the oil and gas industry. The department also has been a leader in the use of computers in accounting instruction, and several faculty members continue to pioneer research in this area.

The accounting faculty contributes to a wide range of journals and actively participates in national and international conferences. During the last few years, faculty have published in such journals as *Accounting Horizons*; *Accounting, Organizations, and Society*; *The Accounting Review*; *Advances in Accounting*; *Auditing: A Journal of Theory and Practice*; *Contemporary Accounting Research*; *CPA Journal*; *EDP Auditor*; *Issues in Accounting Education*; *Journal of Accountancy*; *Journal of Accounting, Auditing and Finance*; *Journal of Accounting and Public Policy*; *Journal of the American Taxation Association*; *Journal of Business and Economics*; *Journal of Information Systems*; *Petroleum Accounting and Financial Management Journal*; *Management Accounting*; *National Tax Journal*; *Oil and Gas Quarterly*; *Public Finance Quarterly*; and *Research in Governmental and Nonprofit Accounting*. Faculty members also have contributed to more than 25 professional and scholarly books and monographs.

Degree Programs

The Department of Accounting offers graduate programs leading to the following degrees:

- Master of Business Administration with a major in accounting;
- Master of Science with majors in accounting and taxation; and
- Doctor of Philosophy with a major in accounting.

Concentrations are available at the master's level in audit and financial accounting, managerial accounting systems, entrepreneurial perspectives and accounting information systems.

For program descriptions, see the "Degree Programs" section under College of Business Administration.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Finance, Insurance, Real Estate and Law

Main Departmental Office
Business Administration Building, 177

P.O. Box 305339
Denton, TX 76203-5339
(940) 565-3050, Fax (940) 565-4234

Web site: www.coba.unt.edu/firel

Advising Office
Graduate Programs Office
Business Administration Building, 229
(940) 369-8977

James A. Conover, Interim Chair

Graduate Faculty: Baen; Braswell; Chandrasekaran; Cole; Conover; Foster; Guttery, CLU, ChFC; Hazleton; Impson; Karafiath; Kensinger; MacDonald; McDonald; Poe; Roden, CMA; Siddiqi; Staff; Thornton, CLU; Tripathy, CFA; Wells, CPCU.

Research

The Department of Finance, Insurance, Real Estate and Law (FIREL) faculty have a distinguished record of scholarship in both theoretical and applied research. Articles written by our faculty have been published in journals such as the *American Business Law Journal*; *American Economic Review*; *Appraisal Journal*; *Financial Analyst's Journal*; *Financial Review*; *Journal of Banking and Finance*; *Journal of Business Finance and Accounting*; *Journal of Financial and Quantitative Analysis*; *Journal of Financial Economics*; *Journal of Financial Research*; *Journal of Financial Services Research*; *Journal of Futures Markets*; *Journal of Insurance Issues*; *Journal of Insurance Regulation*; *Journal of Monetary Economics*; *Journal of Money, Credit and Banking*; *Journal of Portfolio Management*; *Journal of Real Estate Research*; *Journal of Risk and Insurance*; *Real Estate Economics*; *Real Estate Probate and Trust Law Reporter*; *Review of Quantitative Finance and Accounting*; and *South Carolina Law Review*.

Degree Programs

The Department of Finance, Insurance, Real Estate and Law offers graduate programs leading to the following degrees:

- Master of Business Administration with a major in finance;
- Master of Science with majors in finance and real estate; and
- Doctor of Philosophy with a major in finance.

The program admission and degree requirements are the same as those listed for the College of Business Administration unless stated otherwise by the department.

Scholarships

Scholarships are awarded each year in the FIREL department for students majoring in finance or real estate. Please contact the department chair for current information.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The “Course and Subject Guide,” found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Information Technology and Decision Sciences

Main Departmental Office
Business Administration Building, 336

P.O. Box 305249
Denton, TX 76203-5249
(940) 565-3110

Web site: *itds.unt.edu*

Mary C. Jones, Interim Chair

Graduate Faculty: Becker; Evangelopoulos; Getty; Golladay; Guynes, CDP; Jayakumar; Jensen; Jones; Kappelman; Koh; Kulkarni; Kvanli, CQE; Pavur; Peak; Prybutok, CQE, CGA; Richards, CQE; Ryan; Spalding; Spence; Vanecek, CDP, CISA, PE; Vedder; Windsor, CSP.

Research

Faculty in the Department of Information Technology and Decision Science (ITDS) are pursuing research in areas dealing with computer information systems, decision technologies, information technologies, management science and statistics. Research in the computer information systems and information technologies areas spans the broad spectrum from technical issues to managerial and behavioral issues. Topics currently being investigated by faculty in the department include database systems, distributive systems, networks, fourth-generation languages, decision-support systems, evaluation of psychometric factors in systems design, artificial intelligence, research dealing with information centers, software engineering and end-user computing.

Faculty in decision technologies and management science are engaged in research in the areas of statistics, quality control and operations research. Research topics include analysis of forecasting models, mathematical programming, sampling and the effects of correlation on observations in experimental designs. In addition, a major research emphasis has been placed on statistical quality control and reliability.

Research efforts by Business Computer Information Systems (BCIS) and Decision Science (DSCI) faculty are supported by the Information Systems Research Center and the Center for Quality and Productivity.

Degree Programs

The Department of Information Technology and Decision Sciences offers graduate programs leading to the following degrees:

- Master of Science with majors in information technologies and decision technologies; and
- Doctor of Philosophy with majors in business computer information systems and operations management science.

The department also supports an interdisciplinary doctorate with a major in information science. See the School of Library and Information Sciences section of this catalog for more information.

Master of Science

Background Requirements

A bachelor's degree from an accredited institution and admission to the Toulouse School of Graduate Studies are needed for graduate standing. The Master of Science in information technology requires the equivalent of MATH 1190 and the following business courses:

- DSCI 5010, Statistical Analysis
- ACCT 5020, Accumulation and Analysis of Accounting Data
- BLAW 5050, Legal and Ethical Environment of Business
- MGMT 5070, Management Concepts
- MKTG 5000, Marketing Concepts
- BCIS 5090, Computer-Based Information Systems

Students may have acquired this background in their undergraduate programs by the completion of courses equivalent in content to UNT's business foundation requirements for the bachelor's degree in business administration.

Program Admission Requirements

Major in Information Technologies

For admission into the Master of Science program with a major in information technologies, a student must first meet the admission requirements of the College of Business Administration.

Major in Decision Technologies

Students seeking a Master of Science with a major in decision technologies must satisfy the requirements of the College of Business Administration.

Doctor of Philosophy

Background Requirements

In addition to the College of Business Administration background requirements, the Department of Information Technology and Decision Sciences requires that students have a general background in business computer information systems. This background may be acquired through undergraduate programs, professional experience or completion of the following courses offered by the department.

- BCIS 3630, Object-Oriented Programming for Business
- BCIS 3680, Enterprise-Oriented Programming
- BCIS 4610, Analysis of Business Information Systems
- BCIS 4620, Introduction to Database Applications
- BCIS 4630, Fundamentals of Information Security
- BCIS 4720, Web-Based Information Technologies

Program Admission Requirements

For admission into the Doctor of Philosophy program with a major in business computer information systems, a student must first meet the admission requirements of the College of Business Administration.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Management

Main Departmental Office
Business Administration Building, 315
P.O. Box 305429
Denton, TX 76203-5429
(940) 565-3140
Web site: www.coba.unt.edu/mgmt

Nancy Boyd-Lillie, Interim Chair

Graduate Faculty: BarNir, Bowler, Davis, D'Souza, Goodwin, Insley, Johnson, Kuo, Ledgerwood, Lillie, Miles, Ponthieu, Powell, Salimath, Schrader, Stodnick, Taylor, Thibodeaux, Watson, White, Williams.

The Department of Management provides the education required to obtain both the MBA and PhD degrees. The focus of the MBA degrees is toward the application of theory and research in realistic organizational settings; the focus of the PhD degrees is toward the development of skills necessary for academic research and college teaching.

Individuals wishing to obtain an MBA that will broaden their experience beyond their specializations can pursue an MBA in Business Administration with a concentration in administrative management. Those who desire specific areas of specialization may meet their goals through an MBA with a major in Business Administration and concentrations in health services management, organizational behavior and human resources management, or operations management science. The specialized degree programs are based on guidelines offered by the Human Resources Certification Institute, the Society of Human Resources Management, the American Production and Inventory Control Society, the National Association of Purchasing Management, Association of University Programs in Health Administration and the American Society for Quality Control.

Individuals seeking a PhD will take course work that provides an extensive and rigorous program of study in the management discipline, in research methods and in college teaching. Major areas of study include strategic management, human resources management, organizational behavior, organizational theory and operations management science.

Research

The research focus in the Department of Management parallels the major areas offered in the PhD program. Topics researched by members of the faculty

include: strategic decision making, electronic communication technology, entrepreneurship, competitive positioning, international joint-venturing, manufacturing strategy, organizational form, transformational leadership, goal setting, work teams, diversity and team performance, operations and management of health services organizations, stress, and the relationships between both cognitive processes and structures and individual organizational behavior.

Research in the department is supported by funds from external organizations such as the Professional Development Institute, the National Institute for Occupational Safety and Health, and the Small Business Administration, as well as by institutional funds.

Library holdings provide exceptional support for research. There are several databases available online including Business Periodicals Index, ABI Inform, Psychological Abstracts and the Social Citation Index.

Degree Program

The Department of Management offers a graduate program leading to the following degree:

- Doctor of Philosophy with a major in management.

The college offers an MBA with a major in business administration and concentrations in strategic management, health services management, organizational behavior and human resource management, and operations and supply chain management.

Master's Degree

Program admission requirements are the same as for the College of Business Administration.

Course requirements include the MBA core courses, a 15-hour concentration and 3 hours of electives. The health services management major requires 6 hours of electives.

The MBA with a concentration in health services management is a cooperative program. In addition to MBA core courses, students complete 12 hours of concentration courses offered by the UNTHSC School of Public Health at Fort Worth and 6 hours of electives.

Doctoral Degree

Program admission requirements include the College of Business Administration standards and specific criteria appropriate for a management PhD.

Contact the Department of Management for specific course requirements.

The support field must be approved by the department's Graduate Programs Committee.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The “Course and Subject Guide,” found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Marketing and Logistics

Main Departmental Office
Business Administration Building, 236
P.O. Box 311396
Denton, TX 76203-1396
(940) 565-3120
Web site: www.coba.unt.edu/mktg

David Strutton, Chair

Graduate Faculty: Blankson, Chowdhury, Crawford, Farris, Ganesh, Hasty, Landreth-Grau, Lewin, Newcomer, Paswan, Pelton, Pohlen, Sager, Spears, Strutton, Swartz, Thompson.

Research

Research interests of the faculty include transportation, supply chain mapping, project management, supply chain metrics, cash-to-cash, use of real options, economic forecasting through the use of the supply chain, new product development, franchising, cross-cultural consumer buying behavior, advertising, sales promotion, corporate image, internet marketing, positioning, and services marketing.

In addition to the UNT Faculty Research Fund, research in the department has been sponsored by Lockheed-Martin, Texas Logistics Education Foundation, Texas Motor Transportation Association, Exel/MSAS Logistics, IBM, and Edventure Partners/General Motors Marketing Internship Program.

Degree Program

The Department of Marketing and Logistics offers a graduate program leading to the following degree:

- Doctor of Philosophy with a major in marketing.

The college offers a Master of Business Administration with a major in business administration and a concentration in marketing.

Minimum admission standards are established by the graduate faculty of the College of Business and the marketing and logistics department. Satisfaction of the minimum standards does not guarantee admission to a degree program. The graduate faculty of the marketing and logistics department have established additional requirements specific to the academic programs within the department.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The “Course and Subject Guide,” found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.



College of Education

Main Office
Matthews Hall, 214
(940) 565-2235
Fax: (940) 565-4415

Web site: www.coe.unt.edu

Student Advising Office
Matthews Hall, 105
(940) 565-2736

P.O. Box 311337
Denton, TX 76203-1337

M. Jean Keller, Dean

Judith A. Adkison, Associate Dean
Michael F. Saylor, Associate Dean
Jon Williamson, Associate Dean
Gwenn Pasco, Director Student Advising Office

Our Vision

The University of North Texas College of Education will be regionally and nationally recognized for excellence in preparing leaders in the human service and educational spheres of public, private and corporate institutions. We will achieve this through promoting faculty and student research, designing learner-centered instruction, developing collaborative

partnerships and disseminating the results of these efforts. Faculty, staff and students will be committed to inquiry and shared discovery, best professional practices, active participation in professional and scholarly organizations, effective use of technology and the value of intellectual and human diversity.

Our Mission

The UNT College of Education mission is to develop the human capacity—cognitively, socially, emotionally and physically—in our students and, ultimately, in the society they serve. College faculty contribute to achieving the mission by expanding knowledge through research, publication and service.

The college's state and nationally accredited programs combine outstanding students with nationally and internationally recognized faculty in a stimulating learning environment to prepare leaders in their professions. It is a leading Texas college of education in acquiring external contracts and grants and preparing educators for schools, higher education, human service agencies, business and industry. The college is an international leader in a variety of program areas, and its faculty are leaders in state, national and international professional organizations.

To achieve this mission, faculty, staff and students model engaged learning in a supportive and caring environment, focused on worthwhile and appropriate knowledge and skills in their teaching, research

and service. The college is flexible as it responds to a dynamic evolving world.

Specifically, the college:

- collaborates within the university as well as with other institutions of higher education and public and private organizations in the region to conduct research, provide practicum settings, and design and deliver high-quality programs to meet society's changing needs;
- collaborates with the region's public schools and community colleges to develop career pathways and provide seamless educational transitions;
- supports nationally and internationally recognized programs in counselor education, teacher education and educational technology, and works to identify and strengthen areas of emerging excellence such as recreation and leisure studies and distance education;
- emphasizes experiential and service learning to create a well-prepared workforce for the 21st century;
- integrates research experiences in undergraduate and graduate programs;
- nurtures and promotes health and well-being for individuals and society;
- supports a diverse student population through multiple instructional strategies, distance learning and financial assistance;
- promotes the ethical standards of the professions;
- assesses student learning and program outcomes as a basis for continuing improvement;
- supports faculty governance by requiring a record of responsible service of all faculty;
- integrates current technology and applications across the curricula; and
- provides opportunities for ongoing professional development and lifelong learning.

The college offers 14 master's and 10 doctoral degree majors in four academic departments. These departments are Counseling, Development and Higher Education; Teacher Education and Administration; Kinesiology, Health Promotion and Recreation; and Technology and Cognition. This arrangement provides graduate students with opportunities for collaborative research and interdisciplinary course work.

Prospective graduate students are expected to meet all admission requirements of the Toulouse School of Graduate Studies, the College of Education, and the selected graduate degree program within the college. Admission to the individual programs is done through a holistic review of the application portfolio of each candidate. Some financial support for graduate student teaching and research is available from the programs and from the College. External grants and faculty research funds are administered by the Office of Research and Academic Grants. The areas of research are described by each department.

The College of Education is accredited by the National Council for Accreditation of Teacher Education (NCATE) [2010 Massachusetts Avenue NW, Suite 500, Washington, DC 20036-1023; (202) 466-7496] and the State Board for Educator Certification. The program in counselor education is accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP) [5999 Stevenson Avenue, 4th Floor, Alexandria, VA 22304; (800) 347-6647, ext. 301]. The program in recreation and leisure studies is accredited by the National Recreation and Park Association/American Association of Leisure and Recreation Council on Accreditation [22377 Belmont Ridge Road, Ashburn, VA 20148; (703) 858-0784].

Programs of Study

Graduate programs are described by department.

Doctor of Education

- Early Childhood Education

Doctor of Philosophy

- Counseling
- Educational Computing
- Educational Research
- Special Education

Doctor of Philosophy and Doctor of Education

- Applied Technology and Performance Improvement
- Curriculum and Instruction
- Educational Administration
- Higher Education
- Reading Education

Master of Science and/or Master of Education

- Applied Technology and Performance Improvement
- Computer Education and Cognitive Systems
- Counseling
- Curriculum and Instruction
- Development and Family Studies
- Early Childhood Education
- Educational Administration
- Educational Psychology
- Higher Education
- Kinesiology
- Reading Education
- Recreation and Leisure Studies
- Secondary Education
- Special Education

Advising

For graduate advising and information, contact the appropriate graduate program coordinator in the program to which you aspire.

Student Advising Office

The Student Advising Office (SAO) and the TExES Advising Office (TAO) assist undergraduate students in the development of their academic plans. Advising staff partner with students to ensure a productive succession from the beginning of their College of Education experience through the successful completion of their programs, graduation and/or teacher certification. In addition to answering most questions about COE undergraduate programs and policies and procedures, the SAO and TAO staff serve graduate students in the following areas:

- Admission to the teacher education program for those seeking initial or advanced educator certification via graduate programs
- Teacher certification plans for post-baccalaureate initial certification
- Teacher certification processing

Graduate students needing admission to the teacher education program or other services of the SAO should make an appointment with an adviser early in their graduate career. Normally, these meetings are by appointment only, but limited walk-in advising is available during the regular registration period of the fall and spring semesters. Questions about educator certification are answered by the TAO. The SAO is located in Matthews Hall, Room 105 and the TAO in Matthews Hall, Room 103. To schedule an appointment, call (940) 565-2736 or stop at the information desk in Matthews Hall, Room 105. Additionally, students can find information on the services of the SAO and the TAO at www.coe.unt.edu/SAO or www.coe.unt.edu/TExES.

Degree Programs

Prerequisites for the Master's Degree

Requirements for full graduate standing are substantially the same as those established for the university, as described in the Admission section of this catalog. Admission to a program is based on a holistic review of the application portfolio. Preregistration and registration are blocked for a second term/semester of enrollment unless formally admitted to a program.

Contact the department chair or graduate program coordinator for the portfolio components required for admission.

Master of Science

This degree prepares qualified students for further graduate work and for leadership positions in education, governmental, community and human services agencies, and business and industry.

Degree Requirements

1. The candidate must earn a minimum of 30 semester hours of graduate credit. A minor outside the major

is required. All hours must be taken at the master's or higher level (courses numbered 5000 or above if taken at UNT.)

2. A checklist of the process for master's students is available in the Student Advising Office, Room 105, Matthews Hall, or at www.coe.unt.edu/sao.
3. Each program requires the completion of a core of courses that depends upon the major field.
4. For students not writing a thesis, a comprehensive examination covering the candidate's field of specialization is required, typically during the final term/semester in residence. The examination may be oral, written or both.
5. For detailed degree requirements, candidates should consult the appropriate graduate program coordinator and the program web site.

Master of Education

The Master of Education is designed to emphasize professional competence and to prepare leaders in certain fields of educational practice, service and inquiry. For professional and other certificates, consult "Graduate Teacher Certification Programs" in this section.

Degree Requirements

1. The candidate must earn a minimum of 36 semester hours of graduate credit. Some programs require more than 36 hours. All hours must be taken at the master's level or higher level (courses numbered 5000 or above if taken at UNT).
2. A checklist of the process for master's students is available in the Student Advising Office, Matthews Hall, Room 105 or at www.coe.unt.edu/sao.
3. Each program requires the completion of a core of courses that depends upon the major field.
4. For detailed degree requirements, candidates should consult the appropriate graduate program coordinator and the program web site.
5. Ordinarily the requirements for the professional certificate can be met in the master's degree program. When planning the program, students must designate any certificate they seek so appropriate courses are included.

Master's Degree in Interdisciplinary Studies

College of Education faculty members are involved in the master's degree with a major in interdisciplinary studies offered by the School of Graduate Studies. This course of study is unrelated to the undergraduate major in interdisciplinary studies leading to initial teacher certification in grades EC-4 or 4-8. For further information about the degree,

consult the Toulouse School of Graduate Studies section of this catalog.

Doctor of Philosophy and Doctor of Education

Note: Each program may have additional requirements that take precedence over the general requirements. See each program area for specific program requirements.

General Requirements

1. A minimum of 90 semester hours beyond the bachelor's degree, or 60 hours beyond the master's degree, is required. Course work beyond the 60-hour minimum ordinarily is required if the student changes the field of specialization when beginning doctoral study.
2. A checklist for all doctoral students is available in the Student Advising Office, Matthews Hall, Room 105 or in the Graduate Student section of www.coe.unt.edu/sao.
3. A maximum of 24 hours beyond the master's degree may be transferred from other institutions; all such credit must be earned in residence at institutions that offer the doctoral degree. Transfer credit is evaluated for quality and appropriateness for the selected major. All transfer credit must be approved by the candidate's advisory committee and by the dean of the School of Graduate Studies.
4. The mere accumulation of credits does not prepare one for the doctoral degree. Emphasis is placed on the ability of the candidate to demonstrate proficiency in the major field. Leadership, overall scholastic attainment, research ability and formal examinations also are important factors in evaluating competency.
5. Candidates for doctoral degrees ordinarily are required to select a minor field. A minor is defined as graduate work completed outside the student's major department or school; however, minors may not be required on certain graduate degrees. Consult subsequent sections of this publication for specific program regulations governing the degree sought.
6. PhD programs prepare candidates for positions in universities and for community and corporate environments. EdD programs prepare candidates for leadership positions in fields of educational practice and service. Consult the doctoral programs listed within each department for specific definitions and requirements.

Admission Requirements

1. Requirements for full graduate standing are substantially the same as those established for the university, described in the Admission section of this catalog. Admission to the individual program is done

through a holistic review of the application portfolio of each candidate.

2. For degrees with an admission exam, apply for the admission examination prior to completion of 12 semester hours. All applications are available in the departmental main office and at www.coe.unt.edu/sao.
3. Complete other program requirements of the major area department.
4. Meet with the appropriate graduate program coordinator to request an advisory committee, subject to approval by the College of Education and the dean of the School of Graduate Studies.
5. Prepare and follow a degree plan with the aid of the advisory committee, to be approved by the advisory committee and dean of the School of Graduate Studies.

Residency

A minimum residence requirement consisting of two consecutive terms/semesters (fall and spring, spring and fall, or two summer sessions and one contiguous term/semester) must be completed. A minimum enrollment of 9 hours in each of the two terms/semesters or the two summer sessions is required. Residency must be completed prior to attempting the written qualifying examination.

Qualifying Examinations

1. **Written qualifying examination.** During the final term/semester of course work and upon completion of all the previously stated requirements, most doctoral students must pass a written qualifying examination. The examination covers the major, minor, educational research and statistics, and related fields. Students must have completed EDER 6010 and 6020 or equivalent prior to taking the examination.
2. **Oral qualifying examination.** The primary purpose is to ensure an adequate evaluation of the student's knowledge in the major and minor fields. This examination is conducted by the advisory committee.

Students who pass the qualifying examinations are eligible to continue as candidates for the doctoral degree. Less than satisfactory performance on any one or more phases of the qualifying examinations may result in modification of the degree program, repetition of one or more portions of the examinations, or termination of candidacy for the doctoral degree.

Admission to Candidacy

Admission to candidacy is granted by the dean of the School of Graduate Studies after satisfactory completion of all the above listed requirements.

Dissertation Proposal

Upon admission to candidacy and with approval of the advisory committee and at least 10 days after

completion of the oral examination, the candidate presents the dissertation proposal to the committee. The application and procedures for scheduling the seminar are available in the Student Advising Office, Matthews Hall, Room 105 and in the Graduate Student section of www.coe.unt.edu/sao.

Approval of Data Collection Methods

Prior to initiating collection of any data, the candidate is required to obtain the necessary approval(s) of the appropriate university committee(s) regarding the use of human subjects and/or use of university computing services. Candidates may obtain the necessary forms to request approval from their departmental office or major professor.

Dissertation

Upon completion of the dissertation and with the approval of the advisory committee, a final oral comprehensive examination is arranged by the major professor, and the complete form is forwarded to the Student Advising Office.

Graduate Teacher Certification Programs

The State Board for Educator Certification (SBEC) awards teaching certificates in Texas. Initial certification for educators is divided into categories of early childhood–grade 4, grades 4–8, grades 8–12, or for all grade levels. Advanced and supplemental certificates are available in some teaching, administrative or support areas. To obtain initial, advanced or supplemental educator certification, a student must complete all requirements of the certification program to which they were admitted, pass the required state tests (if any), apply for teacher certification with SBEC, and obtain approval for the application from SBEC.

Students who hold a baccalaureate degree but are not certified educators may pursue initial teacher certification alone or in conjunction with an advanced degree. No prior teaching experience is required for enrollment in the post-baccalaureate initial teacher certification options at UNT. Students seeking initial teacher certification in conjunction with a master's degree must also be admitted to the respective degree program. Some programs have other options and certifications available through use of deficiency plans, which include undergraduate and graduate courses. Contact the Student Advising Office post-baccalaureate adviser for more details.

Initial Certification: Elementary

- Generalist Early Childhood–Grade 4
 - English as Second Language (ESL) Generalist EC–4
 - Bilingual Generalist EC–4
 - EC–4 Generalist and Special Education

- Generalist Grades 4–8
 - English as Second Language (ESL) Generalist 4–8
 - Bilingual Generalist 4–8
 - 4–8 Generalist and Special Education

Initial Certification: Secondary (6–12)

- Basic Business
- Dance
- French
- German
- Spanish
- Theatre Arts

Initial Certification: Secondary (8–12)

- English, Language Arts and Reading
- Family and Consumer Science
- History
- Hospitality, Nutrition, and Food Sciences
- Human Development and Family Studies
- Journalism
- Life Sciences
- Mathematics
- Physical Sciences
- Science
- Social Studies
- Speech

Initial Certification: All-Level (see programs for details)

- Art
- Health Education
- Music
- Physical Education
- Special Education (IMPACT program only)

Initial Career and Technology Certificates

- Office Education (6–12)
- Health Science Technology Education (8–12)
- Marketing Education (8–12)
- Trade and Industrial Education (8–12)

Advanced or Supplemental Certification

- Master Technology Teacher
- Educational Diagnostician
- Gifted/Talented Education
- Master Reading Teacher
- Principal
- Reading Specialist
- School Counselor
- School Librarian
- Superintendent
- Technology Applications (8–12)
- Technology Applications (EC–12)

Routes to Certification for Graduate Students

Initial Certification Without an Advanced Degree

Admission

Some certification plans have additional or alternative program-specific requirements.

1. A bachelor's degree from an accredited institution of higher education, with an undergraduate GPA of 2.8 overall or 3.0 in the last 60 hours.
2. Admission to the Toulouse School of Graduate Studies as a non-degree-seeking, certification-only student. Students who are not U.S. citizens or U.S. permanent residents must meet the "Admission Requirements for International Students" printed in the Admission section of this catalog.
3. Acceptable scores on the Texas Higher Education Assessment (THEA) test (Reading = 240; Math = 230; Writing = 220) or equivalent standardized test scores acceptable to the individual certification program.
4. Admission to teacher education is generally required by the end of the first term/semester of enrollment. See specific program requirements for any differences.

Certification

1. Completion of all courses including field experience (early field experience/student teaching/practicum); see individual plans for details.
2. Passing scores on the appropriate Pedagogy and Professional Responsibilities (PPR) and the appropriate teaching field(s) subtest of the ExCET/TEXES examinations.
3. Making application and paying fees to SBEC for teacher certification.
4. Students seeking foreign language teacher certification must pass the appropriate Texas Oral Proficiency Test (TOPT).

Program-Specific Requirements

Candidates must meet the program requirements for the specific teacher certification option selected. Requirements completed as part of the undergraduate degree may be counted toward initial teacher certification, when applicable, but not toward a graduate degree. Students may use up to 12 graduate semester credit hours taken while in non-degree, certification only status toward certain graduate degrees. Students must consult with a faculty program coordinator prior to enrolling in classes. Performance requirements to remain in a program may vary. See program adviser for details.

EC-4 Generalist

1. Bachelor's degree.
2. Admission to teacher education is required before beginning EC-4 certification classes. The teacher education deadline is the same as the Graduate School Admissions deadline (generally, one to two months prior to the start of the term/semester in which students begin taking classes; see the current Academic Calendar section for specific dates by term/semester).
3. Students in this route are required to enroll in courses each long term/semester (fall and spring) until they finish, although they have the option of doing summer enrollments. Not maintaining enrollment in the long terms/semesters requires permission of the program graduate adviser. Unapproved absence from one or more long terms/semesters inactivates the student's status and the student must reapply for program admission before taking courses again.
4. Teacher education (21-34 hours): EDEE 3320, 3380, 5850, 5860; EDRE 4450, 4870; EDSP 3210, 4350.
5. Content area (12-15 hours): DFEC 3123, 3613, 4233, 4243, 4633.
6. Student teaching or practicum (6 hours): student teaching (contact the department adviser for appropriate course information) or practicum for students hired as teachers of record on Probationary Teacher's Certificates, EDEE 5105 and 5115 (one in each of two consecutive long terms/semesters).

4-8 Generalist

Contact department for availability.

Secondary Education

1. Bachelor's degree with at least 24 hours in the content area for which certification is desired. Twelve of these hours must be upper level. Applicants must have a 2.8 GPA or better in the content area.
2. Teaching field: No additional courses if student passes the TExES content exam for the area in which certification is sought. This test is taken before starting the post-baccalaureate course work or in the first term/semester of course work. If the student does not pass this exam, additional course work is required.
3. Teacher education (online courses): EDSE 5002, 5004, 5005, 5470.
4. Student teaching or practicum (6 hours): student teaching EDSE 5108 and 5118 (taken concurrently) or practicum for students hired as teachers of record on Probationary Teaching Certificates, EDSE 5105 and 5115 (one in each of two consecutive long terms/semesters).

All-Level Special Education (Project IMPACT)

1. Bachelor's degree.

2. Successfully complete a pre-admission interview with IMPACT faculty and written agreement to abide by IMPACT policies and procedures.
3. Special education (18 hours): EDSP 5240, 5510, 5710, 5730, 5740, 5750.
4. Practicum (6 hours): proof of employment on a Probationary Teaching Certificate by a school district for the period of the practicum, EDSP 5430 (taken once in fall and once in the spring of the year of employment).

Trade and Industrial

Option I

1. A bachelor's degree from an accredited institution.
2. Three years of full-time wage-earning experience within the past eight years in one or more approved occupations for which instruction is offered. Up to 18 months of the wage-earning experience can be through a formal documented internship.

Option II

1. An associate's degree from an accredited institution.
2. Three years of full-time wage-earning experience within the past eight years in one or more approved occupations for which instruction is offered.

Option III

1. A high school diploma or the equivalent.
2. Five years of full-time wage-earning experience within the past eight years in one or more approved occupations for which instruction is offered.

All options require: ATTD 5110, 5120, 5130, 5140, 6030 (Instructional Internship).

If a student is not certified in the trade area, the student must pass the appropriate National Occupational Competency Testing Institute (NOCTI) exam.

Marketing Education

1. Bachelor's degree.
2. Two years of approved marketing related work experience (utilizing skills that will be taught in a future classroom).
3. Completion of: ATTD 5110, 5120, 5140, 5430, 5630; MKTG 5000, 4600 or 4630.
4. Attend and complete the Texas Education Business and Marketing Professional Development Conference.
5. Two years of successful teaching in marketing education.

Health Science Technology Education

1. Bachelor's degree from an accredited institution.
2. Licensure, certification or registration by a nationally recognized accrediting agency as a professional practitioner in one or more health occupations for which instruction is offered. The preparation program

for licensure or certification must require at least two years of formal education.

3. Two years of approved wage-earning experience.
4. Completion of ATTD 5110, 5120, 5130, 5140, 6030 (Instructional Internship).

Office Education

1. Bachelor's degree.
2. Two years of approved business related work experience (utilizing skills that will be taught in a future classroom).
3. Minimum of 18 hours of courses (major/minor/cognate) in business or business education.
4. Completion of ATTD 4340, 4630, 5120, 5160, 5630 and 6030 (6 hours).
5. Attend and complete the Texas Education Business and Marketing Professional Development Conference.
6. One year of successful teaching in business education.

Advanced or Supplemental Certification Without an Advanced Degree

These certificates are available as additional content areas for those who hold a valid Teacher Certificate. Candidates must meet the following requirements prior to being recommended for the certificate.

1. Completion of all courses including field experience if one is required (student teaching/practicum/mentorship). See individual plans for details.
2. Passing scores on the appropriate TExES examination.
3. Making application and paying fees to SBEC for the advanced or supplemental certification.

Program Specific Requirements

Candidates must meet the program requirements for the specific advanced or supplemental certification option selected. Students may later use up to 12 graduate semester credit hours taken while in non-degree, certification-only status toward a graduate degree. Acceptance of the hours requires program approval. Students must consult with a faculty program coordinator prior to enrolling in classes.

Gifted and Talented (All-Level)

1. Bachelor's degree.
2. Current Texas teacher certificate.
3. Gifted education: EDSP 5105, 5110, 5120, 5130.

Master Reading Teacher

1. Bachelor's degree.
2. Current Texas teacher certificate.
3. Three years of successful classroom teaching experience in an accredited school.
4. Reading: EDRE 5180, 5200, 5370.
5. Language and Literacy in Early Childhood: DFEC 5653.

School Counseling (Elementary or Secondary)

1. A master's degree (not counseling).
2. Current Texas teacher certificate.
3. Two years of teaching experience.
4. Admission to counseling program.
5. Elementary school counseling: COUN 5470, 5480, 5660, 5680, 5690, 5700, 5710, 5720, 5721, 5740, 5760, 5770, 5790; DFEC 5123; EPSY 5210; and one 3-hour elective chosen with adviser's consent.
6. Secondary school counseling: COUN 5470, 5480, 5600, 5660, 5680, 5690, 5710, 5720, 5721, 5740, 5760, 5790; DFEC 5123; EPSY 5210 and two 3-hour electives chosen with adviser's consent.

Special Education (All-Level)

1. Bachelor's degree.
2. Current Texas teacher certificate required.
3. Special education (18 hours): EDSP 5210, 5240, 5510, 5710, 5730, 5740, 5750.
4. Practicum (3 hours): EDSP 5430.

Administration Certification**Principal**

1. A master's degree.
2. Current Texas teacher certificate.
3. Two or more years of creditable classroom teaching experience.
4. Administration (36 hours): EDAD 5300, 5330, 5390, 5400, 5500, 5600, 5610, 5620, 5630, 5650, 5680, 5700.
5. Related academic area (3 hours-choose one class): EDAD 5550 or any approved course from EDCL, EDEE, EDRE, EDSE, CECS, EDER, EDSP, ATTD.

Superintendent**Option I**

1. The principal certificate.
2. Administration: EDAD 6033, 6510, 6520, 6530, 6540, 6550, 6570, 6590.

Option II

1. The mid-management certificate.
2. Administration: EDAD 6033, 6590.

3. Electives (3 courses): EDAD 6510, 6520, 6530, 6540, 6550, 6570.

Educational Diagnostician (All-Level)

1. Current Texas special education teaching certification earned through university course work.
2. A master's degree.
3. Special education (variable hours): All courses required for Educational Diagnostician certification with master's degree. An audit of transcripts is conducted to determine which courses have been taken and passed already and which are needed as part of this plan.
4. Three years of appropriate teaching experience in special education by time of program completion.

Technology Applications (All-Level)

1. Bachelor's degree.
2. Current Texas teaching certificate.
3. Technology (12 hours): CECS 5020, 5030, 5110, 5111, 5800.

Technology Applications (8–12)

1. Bachelor's degree.
2. Current Texas teaching certificate.
3. Technology (12 hours): CECS 5020, 5030, 5110, 5111.

Master Teacher of Technology

1. Bachelor's degree.
2. Current Texas teaching certificate.
3. Technology (12 hours): CECS 5020, 5030, 5110, 5111, 5500.

Probationary Certificates

Probationary certificates for school administrators are available for the following positions: assistant principal, principal and superintendent. Each probationary certificate is for one year and may be renewed one time. Candidates must pass a required criminal background check.

Probationary Assistant Principal

1. Bachelor's degree.
2. Current Texas teacher certificate.
3. Two years of creditable classroom teaching experience.
4. Administration: EDAD 5300, 5330, 5390, 5400.

Probationary Principal

1. Master's degree.
2. Current Texas teacher certificate.
3. Two years of creditable classroom teaching experience.
4. Administration: EDAD 5300, 5330, 5390, 5400.

Probationary Superintendent

1. Hold a professional mid-management or principal certificate.

Certification with an Advanced Degree

Students can obtain certain initial, advanced, and supplemental educator certificates while earning an advanced degree. The department, program and certification available are listed below. The specific requirements for each degree and certification are found in their individual program sections.

Initial Certification**Teacher Education and Administration**

- Generalist Elementary Education EC–4
- Generalist Elementary Education 4–8
- Secondary Education: all areas offered at UNT

Technology and Cognition

- ATTD – Business/Office Education
- ATTD – Health Science Technology Education
- ATTD – Marketing Education
- ATTD – Trade and Industrial
- EDSP – Special Education

Advanced or Supplemental Certification**Teacher Education and Administration**

- Administration – Principal, Superintendent
- Curriculum and Instruction – Gifted and Talented, Master Teacher of Reading, Technology Applications 8–12, Technology Applications EC–12, Master Teacher of Technology
- Reading – Reading Specialist, Master Teacher of Reading

Technology and Cognition

- Computer Education and Cognitive Systems – Master Teacher of Reading, Technology Applications 8–12, Technology Applications EC–12, Master Teacher of Technology
- Educational Psychology – Gifted and Talented, Educational Diagnostician
- Special Education – Gifted and Talented, Educational Diagnostician

Teacher Certification Costs

In addition to tuition, fees and course fees established by the university, teacher certification candidates may pay one or more additional fees:

- Application for Admission to the Toulouse School of Graduate Studies (\$50)
- Application for Admission to the Teacher Education Program (\$29)

- One-time fingerprinting and criminal background check for initial certification (\$47)
- Certification Deficiency Plan (if applicable) (\$25)
- ExCET/TEExES state certification examinations (\$82 per subtest)
- TOPT (for students teaching Spanish or French foreign languages) (\$82 per subtest)
- Probationary Teacher Certificate (if applicable) (\$52)
- Alternative Teacher Certification Mentorship Fee (varies)
- Standard Teacher Certificate (\$77)
- IMPACT Mentoring Fee (\$750)

Graduate Academic Certificates

In cooperation with the Toulouse School of Graduate Studies, the College of Education offers the following graduate academic certificates for students who hold a baccalaureate degree and meet non-degree seeking graduate admission requirements. Completion of a graduate academic certificate is not the same as the State Board for Educator Certification for teacher certification. Some or all of the courses taken in the academic certificates may count toward an advanced degree; see the specific program areas for more information.

For application information, contact the Toulouse School of Graduate Studies by calling (940) 565-2383 or visiting the UNT Eagle Student Services Center, Room 354, on the Denton campus. Additional information may be obtained by visiting www.gradschool.unt.edu and navigating to “Graduate Academic Certificates” or visiting www.coe.unt.edu/certificates.htm.

New academic certificates are added continuously. Contact the College of Education at (940) 565-4325 for updates to the list of graduate academic certificates below:

- Adolescent Counseling
- Adult Counseling
- Adult Learning and Education
- Advanced Corporate Training
- Alternative Certification in Special Education
- Autism Intervention
- Behavioral Specialist
- Biofeedback in Counseling
- Career Counseling
- Child Counseling/Play Therapy
- College/University Counseling
- Community College Leadership
- Community Counseling
- Corporate Training
- Couple and Family Counseling
- Diversity Certificate
- Family, School and Community Involvement
- Gifted and Talented Education
- Group Counseling
- Parent Education
- Recreational Management

- Specialist in Re-Integration of Students with Traumatic Brain Injury
- Teaching and Learning Specialist for Inclusion Settings
- Teaching Children and Youth with Mild to Moderate Disabilities
- Transition Specialist in Emotional/Behavioral Disorders

The Academy for Outreach, Research and Professional Development

The Academy for Outreach, Research and Professional Development within the College of Education at the University of North Texas was formed in the fall of 1993. Members of the academy include all faculty and professionals within the college and participating colleagues from outside the college, including faculty at UNT, educators from public schools and partners in industry.

The mission of the academy is to facilitate the dynamic involvement of College of Education faculty and students in research and professional development by:

- providing research and professional development support services;
- disseminating research and professional development information;
- fostering collaboration among College of Education faculty;
- offering mentoring opportunities for new faculty;
- expanding faculty and student research and other professional development opportunities through centers, clinics and institutes; and
- developing ventures outside the College of Education with other university units, outside agencies and corporate organizations.

A variety of centers, clinics and institutes are the focal point of many academy efforts. Below are brief descriptions of each of these organizations.

TRIO

TRIO develops, implements and administers programs specifically designed to meet the educational needs of unique student populations, such as the financially and educationally disadvantaged, minorities and disabled individuals. The center currently administers five programs that provide services to students from middle school level through graduate school. Projects administered by the center have involved more than 85 school districts in north central Texas as well as many junior and community colleges throughout the state. These five programs provide services for an excess of 1,500 participants yearly, ranging from grade school to upper-division undergraduate UNT students.

Center for the Study of Educational Reform

This center's mission is to conduct research and serve as an information clearinghouse on educational reform initiatives. Created in 1990, the center has received grants to conduct a statewide survey on education reform and to conduct research on private and public school choice programs. The center's present research activities concentrate on investigations of educational policy and curricular and instructional innovations intended to promote academic success of traditionally marginalized student populations, particularly Spanish-speaking immigrants. This new direction will expand the center's research focus to international collaborations with researchers in Latin America. The center also provides doctoral students with opportunities for dissertation research.

Child and Family Resource Clinic

The Child and Family Resource Clinic (CFRC) is an interdisciplinary diagnostic and remedial clinic serving children, adults and families from the North Texas area. Services offered include interdisciplinary assessment, counseling, reading instruction, speech/language therapy and parent education classes. Fees for all services are based on a sliding scale. CFRC provides clinical training opportunities for graduate and undergraduate students in counseling, reading and speech/language/hearing.

Center for Interdisciplinary Research and Analysis

The Center for Interdisciplinary Research and Analysis offers services to graduate students and faculty members in the College of Education. Services include assistance in research design, measurements and analysis of data using either the SPSS or SAS statistical packages. Assistance is also given in the interpretation of computer output and display of data in the form of tables or charts.

Department of Counseling, Development and Higher Education

Main Office
Stovall Hall, 155
P.O. Box 310829
Denton, TX 76203-0829
(940) 565-2910

Web site: www.coe.unt.edu/cdhe

Ron Newsom, Interim Chair

Advising:
Counseling - Stovall Hall, 155
(940) 565-2910

Development, Family Studies and Early Childhood
Education - Matthews Hall, 119
(940) 565-4646

Higher Education - Matthews Hall, 119
(940) 565-2045

Graduate Faculty: Baier, Barrio, Berg, Bratton, Bush,
Chandler, Cottle, Coy, Dixon, Engels, Fulton-
Calkins, Glover, Holden, Jacobs, Jacobson, Kern,
Landreth, Lawhon, Morrison, Newsom, Nievar, Ray,
Robles-Goodwin.

The Department of Counseling, Development and
Higher Education provides programs designed to
prepare professionals for leadership positions in child
care and preschool facilities, schools, colleges, univer-
sities and the public sector.

Counseling offers graduate programs leading to
the following degrees:

- Master of Education,
- Master of Science, and
- Doctor of Philosophy, all with a major in counseling.

These programs are designed for people who wish
to become professional counselors and/or coun-
selor educators and supervisors in schools, colleges,
universities, community agencies and student services
administration.

*The Council for Accreditation of Counseling and
Related Educational Programs (CACREP) [5999 Stevenson
Avenue, 4th Floor; Alexandria, VA 22304; (800) 347-6647,
ext. 301], a specialized accrediting body recognized by the
Council on Postsecondary Accreditation, has conferred
accreditation on the following program areas in counseling
at the University of North Texas: community counseling
(MEd, MS), school counseling (MEd, MS), college and*

*university counseling (MEd, MS) and the PhD program in
counseling.*

Development and family studies and early child-
hood education offers the following degrees:

- Master of Science with a major in development and family studies;
- Master of Science, and
- Doctor of Education degrees, each with a major in early childhood education.

These programs are designed to meet the needs
of parent and family life educators, hospital child
life specialists, community college teachers, life span
developmentalists, vocational home economics teach-
ers, home economists in the Cooperative Extension
Service, individuals seeking qualifications for child
care administration, educators in early childhood
education and administration, researchers interested
in the application of findings in the early childhood
environment, and other professionals who wish to
specialize in development and family studies and
early childhood education.

Higher education offers graduate degree programs
leading to the following degrees:

- Master of Science,
- Master of Education,
- Doctor of Education, and
- Doctor of Philosophy degrees, each a with major in higher education.

The program's faculty believe that higher educa-
tion as a field of doctoral study may be presented in
a cohesive, disciplined and scientific manner; that
issues, activities and problems in higher education
can be formally studied and taught through courses
in foundations, research, teaching, curriculum,
finance, law, administration, comparative educa-
tion, learning theory, student affairs, business affairs,
human development, resource development and
others; and that study in higher education is strength-
ened and enhanced through administrative and
research practicums, internships, assistantships and
independent study.

Research

Research interests of the counseling faculty are
directed toward providing a strong academic and
applied counselor preparation program and advanc-
ing the body of knowledge in counseling and human
development. Research is focused on counseling
methods and techniques, theoretical perspectives,
measurement and evaluation, and current issues
within the discipline. Specific areas of research are
counselor effectiveness, cognitive style and personality
type, descriptive longitudinal study of child and ado-
lescent maturity, employability skills, group counseling,
human relations training, human resources develop-
ment in business and industry, measurement and

evaluation of characteristics associated with student success in counseling, play therapy and filial therapy, relationship and family therapy and assessment of family functioning, single-parent and stepparent family functioning, transpersonal counseling, biofeedback and animal assisted therapy.

Research in development and family studies and in early childhood education focuses on numerous topics concerning individuals and families across the life span. Current research interests include child and human development, infant education and care, early childhood education and administration, parental involvement in public schools, parent education, moral development, cognitive development, family stress, application of neuroscience research to early childhood program, early childhood program development and foster care.

The Center for Parent Education provides a vehicle for outreach, public relations and in-depth research of critical societal needs related to children and families. The Velma E. Schmidt Programs in early childhood education translate theory into practice by developing programs that help children succeed in life.

Current research interests of the higher education program faculty include studies of statewide coordination and control of higher education; information bases for decision making by higher education administrators; effects of colleges on student cognitive and social development; instrumentation for measuring student co-curricular activities; graduate student needs and services; higher education financing strategies for the 21st century; strategies for improving the quality of college teaching; measurement of educational outcomes in higher education; and the use of qualitative research methodology in the study of higher education subsystems and in the evaluation of teaching and administrative effectiveness.

The quality of graduate study in the higher education program is enhanced by the program's close affiliations with the Bill Priest Center for Community College Education, the Center for Higher Education and the North Texas Community/Junior College Consortium. The department also sponsors the publication of the *Community/Junior College Journal of Research and Practice and Educational Gerontology: An International Bi-Monthly*, and has been represented on the editorial boards of six other scholarly journals, including the *College Student Affairs Journal*; *Journal of College Student Retention: Research and Practice*; *Reading Psychology*; *British Journal of Educational Gerontology*; *Journal of Applied Research in the Community College*; and *Journal of Staff, Program and Organization Development*.

Centers

The Don A. Buchholz Endowed Chair in Community College Education in the **Bill J. Priest Center for Community College Education** began its service to

two-year colleges and to the linkage between two- and four-year colleges and universities in the fall of 2000. While the chair and the center's primary function is to provide graduate education, research and development activities for institutions, administrators and faculty in two-year colleges, the chair and center seek to improve the efficiency and effectiveness of the linkage between two- and four-year colleges and universities in the provision of education to students in post-secondary education.

The **Biofeedback Research and Training Laboratory (BRTL)** makes biofeedback treatment of a variety of stress-related disorders available on a sliding scale fee basis. Biofeedback treatment is provided under counseling program faculty supervision by graduate counselors-in-training who are preparing to become nationally certified as biofeedback therapists.

The **Center for Animal Assisted Therapy (CAAT)** trains professionals and volunteers to work with their pets to: (a) facilitate the development of students in Kindergarten through 12th grade with pet-assisted educational programs; and (b) enhance the emotional well-being of persons of all ages through positive human-animal interactions. Workshops and courses are offered for national certification training for persons who wish to work with their pet to perform animal-assisted volunteer service or provide professional animal-assisted therapy.

The **Center for Parent Education** was established to meet the needs of families through parent education research and training, as well as act as a conduit for information about trends and research related to parent education. The program collaborates with faculty in the human development and family studies master's degree program, and the child development undergraduate program, and with other university faculty who have an interest and expertise in parent education.

The **Center for Play Therapy** exists to facilitate the unique development and emotional growth of children through the process of play therapy. The center carries out this commitment by providing graduate courses in play therapy, a play therapy summer institute, an annual play therapy conference, research, scholarships, a directory of play therapy training in the United States and Canada, a bibliography of play therapy literature, an international clearinghouse for play therapy literature, play therapy for children and training for parents.

The **Child Development Laboratory** is an accredited preschool program for young children ages 3 through 5. In addition, it serves as a model, an observation site and a training center for undergraduate and graduate students in fields related to young children. Research related to early childhood issues is conducted by graduate students and faculty members from across the university.

The **Counseling and Human Development Center (CHDC)** and the **Dallas Campus Counseling Clinic (DCCC)** are instructional facilities in which master's and doctoral level counselors-in-training provide counseling under faculty supervision. The CHDC and DCCC serve individuals of all ages, couples, families and groups. Fees are based on a sliding scale, making counseling affordable to a segment of the population that otherwise might not have access to mental health services.

Counseling Degrees

Master of Science, Master of Education

Admission Requirements

Admission to the master's degree programs in counseling is competitive because available facilities do not permit admission of all qualified applicants.

Admission to the master's program in counseling is a three-stage process.

First, the student must be admitted to the Toulouse School of Graduate Studies. The general requirements for admission are specified in the College of Education section in this catalog. Second, applicants must submit a satisfactory GPA and scores on the Graduate Record Examination (GRE) to the Toulouse School of Graduate Studies prior to admission to the counseling program. Third, applicants must submit to the counseling program a counseling program application, three letters of recommendation (completed on special forms provided by the program), a writing sample, submission of GRE scores and any other program specific admission materials. Contact the academic program for information concerning acceptable admission test scores.

All required admission materials must be filed in the program office by May 15 preceding the fall term/semester, October 15 preceding the spring term/semester, or February 15 preceding the summer term/semester for which the applicant wishes to begin the program. Shortly after the application deadline, each applicant is required to participate in an orientation and interview session.

All students granted provisional admission to the master's program are required to enroll in COUN 5710 during the first term/semester of enrollment in graduate school and must receive a grade of B or higher. Concurrent enrollment in COUN 5680 and 5710 is encouraged. Students must receive a grade of B or higher in these two courses to be considered for full admission to the program.

Admission to the counseling program is provisional until the student's progress is evaluated by the counseling faculty upon completion of COUN 5680. The student's progress is evaluated on the basis of the demonstration of adequate subject matter knowledge

and the personal and interpersonal skills required for counseling. After the progress review, the counseling faculty either recommends that the student continue the program or reserves the right to withdraw the student from the program.

Following this initial evaluation, the student will be routinely evaluated on the criteria of knowledge, personal and interpersonal skills and counseling skills to determine if progress is adequate, if remedial work is needed or if the student should be withdrawn from the program.

Course Requirements

Both the Master of Education and Master of Science degrees in counseling are offered in the counseling program. The MEd degree requires a minimum of 48 semester hours, including successful completion of internship, COUN 5720/5721, and a final exit interview. The MS degree requires a minimum of 51 semester hours, including completion of all MEd requirements, successful completion of EPSY 5050 and a passing score on the comprehensive examination (written, oral or both) administered in the student's last term/semester of course work. All degree programs must be planned in consultation with the student's adviser. Students are required to file a degree plan during their first term/semester of graduate study.

Each master's degree program requires an internship, COUN 5720/5721, in lieu of a thesis. The internship should be the last enrollment in the master's program. Placement for the internship is selected in cooperation with the supervisor and must be approved by the program.

All degree program areas listed below meet the educational requirements for licensure as a professional counselor in Texas. The elementary and secondary school counseling program areas meet the educational requirements for certification as a public school counselor in Texas. Students who wish to become licensed professional counselors or certified school counselors in Texas are required to have specified supervised experiences. Counseling program area heads should be consulted for details.

Elementary School Counseling Track

Required courses: COUN 5470, 5480, 5660, 5680, 5690, 5700, 5710, 5720, 5721, 5740, 5760, 5770 and 5790; EPSY 5210 and DFEC 5123.

Elective: one course (3 hours) selected in consultation with the student's adviser.

Secondary School Counseling Track

Required courses: COUN 5470, 5480, 5600, 5660, 5680, 5690, 5710, 5720, 5721, 5740, 5760 and 5790; EPSY 5210 and DFEC 5123.

Electives: two courses (6 hours) selected in consultation with the student's adviser.

College and University Counseling Track

Required courses: COUN 5470, 5480, 5660, 5680, 5690, 5710, 5720, 5721, 5730, 5740, 5750, and 5790; EPSY 5210; EDHE 5120; and DFEC 5123.

Elective: one course (3 hours): COUN 5300, 5580 or 5590 selected in consultation with the student's adviser.

Community Counseling Track

Required courses: COUN 5300, 5470, 5480, 5660, 5680, 5690, 5710, 5720, 5721, 5730 or 5760, 5740 and 5790; EPSY 5210; DFEC 5123.

Electives: two courses (6 hours) from the student's area of emphasis selected in consultation with the student's adviser.

School Certification Non-Degree Program

Individuals with a master's degree from an accredited institution may complete course work that constitutes the substantial equivalent of the elementary or secondary school counseling program area to meet the educational requirements for public school counselor certification in Texas. Certification also requires at least two years of teaching experience in an accredited school.

Doctor of Philosophy

Admission Requirements

Applicants to the doctoral program must meet requirements for admission to the Toulouse School of Graduate Studies. The general requirements for admission are described in the College of Education section.

A completed application for admission to the doctoral program, including the names of three professional references, must be submitted to the program. The program makes independent inquiry of the applicant's references.

Applicants must submit evidence of holding a master's degree from an accredited college or university and have a grade point average of 3.5 or higher on all graduate credit hours. The applicant who has not completed a master's degree in counseling or who does not hold appropriate counselor credentials must complete a prerequisite of a minimum of 30 hours in counseling. If the master's degree is from an institution other than UNT, the applicant must enroll in the master's practicum, COUN 5690, and earn a grade of B or higher; or submit evidence of a practicum experience comparable to COUN 5690 and demonstrate counseling proficiency to the review committee.

Applicants must submit GRE scores and any program specific admission materials. Contact the academic program for information concerning acceptable admission test scores.

The admission examinations for the counseling program are administered once each year during the spring term/semester. All required admission materials must be filed in the department office by November 1 preceding the fall term/semester for which the student is applying. All academic prerequisites must be completed by the end of the summer term/semester preceding that fall term/semester.

Upon successful completion of the admission examinations, admission to the counseling doctoral program is provisional until the student's progress is evaluated by the counseling faculty upon completion of COUN 6022 and 6652. The student's progress is evaluated on the basis of the demonstration of adequate subject matter knowledge and the personal, interpersonal and counseling skills required for counseling.

After the progress review, the counseling faculty will recommend that the student continue or continue with specific conditions attached, or reserves the right to withdraw the student from the program.

Course Requirements

The Doctor of Philosophy degree in counseling is offered in the Department of Counseling, Development and Higher Education. The degree requires a minimum of 75 semester hours beyond the master's degree, of which approximately 48 hours are specified. Each student must complete a minor of at least 12 semester hours outside the academic program or an elective within the program area. Graduate faculty who chair doctoral committees are urged to include an outside member on each doctoral student's dissertation committee. The student's major professor and the student should work together to select an outside member whose expertise will contribute meaningfully to the dissertation. An outside member is defined as a graduate faculty member (category I, II or III) whose principal appointment is in a department other than the Department of Counseling, Development and Higher Education.

The general core courses for the doctoral program are COUN 6021, 6022, 6031, 6032, 6090, 6130, 6651, 6652, 6680 and 6950 (12 hours); and EDER 6010 and 6020. Students may not be enrolled in any COUN core course until they have been fully admitted to the doctoral program in counseling.

Placement for internship, COUN 6031 and 6032, is selected in cooperation with the internship director and the major adviser. Internship placement must be in a counseling setting approved by the department.

Students who wish to become licensed professional counselors in Texas are required to have specified supervised experiences. The counseling doctoral program area head should be consulted for details.

Development and Family Studies Degree

Master of Science

Admission Requirements

Application to the master's program in development and family studies is a two-part process. First, the applicant must file an application for admission to the Toulouse School of Graduate Studies. Second, the applicant must submit the following to the development and family studies program office:

1. A completed DFSECE program application.
2. A letter of application.
3. A current resume.
4. Scores on the GRE or GMAT.
5. A statement of approximately 300–500 words concerning the purpose for undertaking graduate study at UNT, including professional plans or career goals as well as a discussion of research interests.
6. Three letters of recommendation from individuals familiar with the applicant's academic and/or professional abilities. Applicants must submit at least one letter from a current or former professional employer (if such experience exists) and at least one from the last academic institution attended.

In addition to the listed criteria, the program may consider the applicant's related work experience, publications, presentations to professional organizations, leadership roles, teaching excellence, awards, volunteer participation and other factors that might provide evidence of potential success in the master's program.

Credentials

Graduate course work in development and family studies may lead to one or more of the following credentials:

- Certified Family Life Educator (CFLE) through the National Council on Family Relations Academic Program Review process.
- Graduate Academic Certificate (GAC) in Parent Education with application made to the Toulouse School of Graduate Studies. Required course work can lead to the CFLE credential.
- Early Intervention Specialist Professional with the Texas Interagency Council on Early Childhood Intervention (ECI) through an agreement with UNT.
- Post-Baccalaureate Texas Secondary Teacher Certification in (a) Human Development and Family Studies and (b) Family and Consumer Sciences (FCS Certificate includes course work taken through the School of Merchandising and Hospitality Management.) Secondary Education course work is taken through the Department of Teacher Education and Administration.

- Certified in (a) Human Development and Family Studies (CHDFS) and (b) Family Consumer Sciences (CFCS) upon completion of an exam offered by the American Association of Family and Consumer Sciences. Post Baccalaureate Secondary Teacher Certification students complete the respective exams through the TExES/ExCET subject matter exam for teacher certification.
- Child Life Certification offered through the Child Life Council.

Degree Requirements

All MS students in development and family studies are required to complete the following.

1. Development and Family Studies Master's Core (12 hours):

- DFEC 5113, Developmental and Family Theory
- DFEC 5413, Family Relationships
- DFEC 5133, Advanced Studies in Child Development or DFEC 5123, Human Development Across the Lifespan
- DFEC 5163, Diversity in Individuals and Families or DFEC 5433, Partnerships: Family, School and Community

2. Research Requirement (6 hours):

- EPSY 5210, Educational Statistics
- DFEC 5013, Research Strategies and Techniques in Development, Family Studies and Early Childhood Education

3. Thesis or Non-thesis Option: Students may select either the 36-hour thesis option or the 40-hour non-thesis option.

Thesis option: In addition to the DFS master's core and research requirement cited above, the student must successfully develop a thesis proposal, defend the proposal, and complete and defend the proposed research. Students selecting the 36-hour thesis option must also complete 6 hours of DFEC 5950, Master's Thesis. In consultation with the student's advising committee (see below), the student must select 12 additional hours of course work, 6 of which may be taken outside the major field if the student desires and the advising committee approves.

Non-thesis option: In addition to the DFS master's core and the research requirement cited above, in consultation with the advising committee (see below), students selecting the 40-hour non-thesis option must also complete 22 additional hours, 9 of which may be taken outside the major field if the student desires and the advising committee approves.

4. Comprehensive Exam: The comprehensive exam for the thesis student will be the thesis. Students are required to establish a three-member thesis committee consisting of the major adviser and two other UNT faculty members, one of whom must also be a

member of the DFS faculty. All members of the committee must hold graduate faculty status at UNT.

Master's Committee

Each student's degree program will be guided by a master's committee. The committee will be composed of at least three members that must include two from the UNT program faculty. The committee actively participates in drawing up the student's degree plan and evaluating the comprehensive exam.

Early Childhood Education Degrees Master of Science

Admission Requirements

Initial acceptance into the master's program in early childhood education is contingent upon the following requirements.

1. Submission of acceptable scores on the GRE or GMAT and any program specific admission materials. Contact the academic program for information concerning acceptable admission test scores. If the applicant does not meet this standard but otherwise shows promise of academic success, the program faculty may choose to admit the student provisionally. In this case, the GRE or GMAT must be repeated. If an acceptable score is not achieved the second time, the student may appeal. Students who have not satisfied the GRE or GMAT requirement and who have not presented a successful appeal by the end of their first term/semester of graduate work will not be eligible to take further course work until this requirement is satisfied. Undergraduates who plan to apply for graduate training should arrange to take the GRE during their senior year.
2. Three satisfactory letters of reference must be submitted by applicants for admission to the master's program in early childhood education. Applicants must submit one from their last professional employer (if they have had such previous experience) and one from the last academic institution they attended.
3. A statement of approximately 300–500 words concerning the purpose for undertaking graduate study at UNT, including professional plans or career goals as well as a discussion of research interests.

In addition to the listed criteria, the committee may consider the applicant's related work experience, publications, presentations to professional organizations, leadership roles, teaching excellence, awards and other factors that might provide evidence of potential success in the master's program.

In all cases, the development, family studies and early childhood education faculty maintains the right to make independent inquiry of the applicant's employers and the faculties of institutions previously

attended, as well as to deny admission to an applicant who in its judgment fails to meet personal or academic admission standards.

Degree Requirements

All MS students in early childhood education are required to complete the following.

1. Early Childhood Education Master's Core (18 hours):

- DFEC 5133, Advanced Studies in Child Development
- DFEC 5163, Diversity in Individuals and Families
- DFEC 5433, Partnerships: Family, School and Community
- DFEC 5513, Advanced Studies in Early Childhood Education
- DFEC 5633, Assessment in Early Childhood Education
- DFEC 5643, Leadership and Supervision of Programs

2. Research Requirement (6 hours):

- EPSY 5210, Educational Statistics
- DFEC 5013, Research Strategies and Techniques in Development, Family Studies and Early Childhood Education

3. Thesis Options: Students may select either the 36-hour thesis option or the 39-hour non-thesis option.

Thesis Option: Students must successfully develop a thesis proposal, defend the proposal, and complete and defend the proposed research. In addition to the ECE master's core and the research requirement cited above, students selecting the 36-hour thesis option must also complete 6 hours of DFEC 5950, Master's Thesis. In consultation with the student's committee (see below), the student will select 6 additional hours of course work; a minimum of 3 of these hours must be chosen from development, family studies and early childhood education (DFEC) courses.

Non-thesis Option: In addition to the ECE master's core and the research requirement cited above, consultation with their committee (see below), students selecting the 39-hour non-thesis option must also complete 3 additional hours of DFEC courses and 12 hours from a related area. Students choose their related area in consultation with their committee; a maximum of 3 of these hours may be DFEC courses. Suggestions for related areas include but are not limited to: educational administration (to be eligible for temporary principal's certification), higher education (for specialized courses in teaching at community colleges/junior colleges), and reading (for the reading certification or depth).

4. Comprehensive Exam: All students must complete a comprehensive exam, including an oral exam. The comprehensive exam for thesis students will be the thesis. Non-thesis students may select to complete a written exam of three to four questions.

Note: Students entering the MS in early childhood education program who have not had the following in their academic background during the past six years will be required to take either or both of the following:

- DFEC 5613, Advanced Curriculum for Early Childhood, and
- DFEC 5623, Environments and Programs for Young Children.

These courses may be included in the degree plan within the additional DFEC hours.

Master's Committee

Each student's degree program will be guided by a master's committee. The committee will be composed of at least three members including two from the UNT program faculty. The committee actively participates in drawing up the student's degree plan and evaluating the comprehensive exam.

Doctor of Education

The EdD in early childhood education is offered as a cooperative program between the University of North Texas and Texas Woman's University under guidelines established by the Federation of North Texas Area Universities. The program enables students to utilize the combined faculties, libraries, computer facilities and research opportunities available at both universities in the development of their doctoral studies.

The federation doctoral program provides opportunities for formal course work, seminars, independent study, participation in regional and national conferences and dissertation research. The program also includes federation-sponsored seminars featuring outstanding nationally and internationally recognized educators.

The mission of the doctoral program in early childhood education is to develop professionals who are leaders and agents of social change for children and their families. This mission is accomplished through:

- engaging in advocacy activities for children and families;
- identifying and solving significant community based problems;
- developing technological skills and applications;
- cooperating with faculty and personnel in schools and community agencies;
- gaining knowledge of early childhood education in an integrated, interdisciplinary approach;
- maximizing opportunities for practical, applied research;
- investigating practical and authentic approaches to job-related problems confronting professionals today;

- providing opportunities for the integration of working and learning resulting in the ability to solve problems and make changes in schools, colleges and agencies;
- enabling participants to complete the course of study and dissertation in a time-frame compatible with working professionals; and
- addressing participants' unique learning needs and styles.

Graduates are prepared to assume diverse roles including teaching, research and administrative responsibilities.

Admission Requirements

Admission to the federation doctoral program in early childhood education is a two-step process. Each applicant first must apply to and meet the general admission requirements of either the Toulouse School of Graduate Studies at UNT or the Graduate School at TWU.

Applications for students who meet initial admission standards are forwarded to the Early Childhood Education Federation Admissions Committee for review. Initial acceptance into the federation doctoral program is contingent upon the following.

1. Applicants must submit evidence of holding a master's degree from an accredited college or university and have a grade point average of 3.5 or higher on all graduate credit hours.
2. Submission of acceptable scores on the GRE or GMAT and any program specific admission materials. Contact the academic program for information concerning acceptable admission test scores. If the applicant does not meet this standard but otherwise shows promise of academic success, the program faculty may choose to admit the student provisionally. In this case, the GRE or GMAT must be repeated. If an acceptable score is not achieved the second time, the student may appeal. Students who have not satisfied the GRE or GMAT requirement and who have not presented a successful appeal by the end of their first term/semester of graduate work will not be eligible to take further course work until this requirement is satisfied.
3. Three satisfactory letters of reference must be submitted by applicants for admission to the doctoral program in early childhood education. Applicants must submit one from their last professional employer (if they have had such previous experience) and one from the last academic institution they attended.
4. A statement of approximately 300–500 words concerning the purpose for undertaking graduate study at UNT, including professional plans or career goals as well as a discussion of research interests.
5. Approval of the Federation Admission Committee.

In addition to the listed criteria, the committee may consider the applicant's related work experience, publications, presentations to professional organizations, leadership roles, teaching excellence, awards and other factors that might provide evidence of potential success in the doctoral program.

In all cases, the development, family studies and early childhood education faculty maintains the right to make independent inquiry of the applicant's employers and the faculties of institutions previously attended, as well as to deny admission to an applicant who in its judgment or in the judgment of any of the program's federated universities fails to meet personal or academic admission standards.

Degree Requirements (69–70 hours)

1. Early Childhood Education Doctoral Core (21–22 hours):

- DFEC 6523, History, Philosophy and Ethics of Early Childhood Education (UNT), or EDUC 6663, Foundations of Early Childhood Education (TWU)
- DFEC 6543, Critical Issues in Early Childhood Contemporary Society (UNT)
- DFEC 5523, Early Childhood Education Colloquium (UNT)
- FS 6623, Language in Early Childhood Classrooms (TWU), or FS 6653, Child Development of the Kindergarten–Primary Child: Advanced (TWU)
- DFEC 6533, Current Readings and Research in Early Childhood Education (UNT)
- DFEC 5433, Partnerships: Family School and Community (UNT)
- DFEC 6511 (3–4 hours), Continuing Integrative Seminar (UNT)

2. Research Requirement (12 hours):

- DFEC 5013, Research Strategies and Techniques in Development, Family Studies and Early Childhood Education (UNT)
- EDER 6010, Statistics for Educational Research (UNT)
- EDER 6020, Research Methods in Education (UNT)
- EDER 6210, Multiple Regression Analysis and Related Methods (UNT), or EDER 6280, Qualitative Research in Education (UNT)

3. Each student must also complete a 12-hour concentration from additional courses within the program area. These courses are selected in consultation with the student's doctoral committee (see below).

4. Each student must also complete 12 hours in a related area. These courses are selected in consultation with the student's doctoral committee (see below) and may include a maximum of 3 additional hours from courses within the program area. Suggestions of related areas include but are not limited to: educational administration (to be eligible for temporary principal's certification), higher education

(for specialized courses in teaching at community colleges/junior colleges or senior institutions), and reading (for the reading certification or depth).

5. The student must prepare and orally defend a written qualifying exam.

6. **Dissertation Research Requirement** (12 hours): The student must successfully develop a dissertation proposal, defend the proposal, and complete and defend the proposed research. The research project should add substantive confirmation or understanding of the principles, theories and practices of early childhood education.

7. **Residency Requirement:** To meet the residency requirement for the EdD, students must enroll in a minimum of 18 semester hours during a calendar year.

Note: Students entering the EdD in early childhood education program who have not had the following in their academic background during the past six years will be required to take either or both of the following:

- DFEC 5163, Diversity in Individuals and Families, and
- DFEC 5613, Advanced Curriculum for Early Childhood.

These courses may be included in the degree plan within the concentration area.

Students entering the EdD program who have not had a child development course in their academic background during the past six years will be required to take either DFEC 5133 (may be included in the concentration area) or ECSE 6653 taken as a core requirement.

Students entering the EdD program who have not had a statistics course in their academic background during the past six years will be required to take Epsy 5210 before taking any of the courses listed in the research requirement cited above.

DFEC 6511 should be taken during the student's first three terms/semesters.

Doctoral Committee

Each student's degree program will be guided by a doctoral committee. The committee will be composed of at least three members of the UNT program faculty and at least one member from TWU. The chair of the committee should be a member of the UNT program faculty. The committee actively participates in (a) drawing up the student's degree plan, including assisting with the selection of courses to be included in the 12-hour concentration and 12 hours from a related area as noted above, (b) evaluating the written and oral qualifying exams and (c) evaluating the dissertation proposal and final defense.

Higher Education Degrees

Master of Science, Master of Education

The master's degree in higher education prepares students for entry-level and mid-management positions in higher education administration in such offices as student life, student housing, career centers, diversity centers, student unions, advancement offices, alumni offices, development offices, advising centers, international student offices, financial aid offices, dean of students offices, institutional research offices and business affairs offices. The student services administration track meets the requirements of the Council for the Advancement of Standards (CAS) for graduate programs in student affairs.

The master's degree in higher education allows the student to specialize in one of five tracks: student services administration, advancement, community college administration, general administration or adult education.

Admission Requirements

Students should submit an application to the Toulouse School of Graduate Studies, an official copy of all transcripts and an acceptable GRE score. Second, students should file a program application form, three letters of recommendation to be completed on special forms provided by the program, and a writing sample with the higher education program. A bachelor's degree GPA of 2.8 (based on a 4.0 grading system) is required. An interview is required before admission.

Master of Education

The master of education degree requires a minimum of 36 semester hours in these areas: higher education core courses (18 hours), research (3 hours), internship in the specialty track (6 hours) and a specialization in higher education (9 hours).

Master of Science

The master of science degree requires a minimum of 39 semester hours in these areas: higher education core courses (18 hours), research (6 hours), internship in the specialty track (6 hours) and a specialization in higher education (9 hours). Additionally, the MS requires successful completion of a comprehensive exam at the end of the course work.

For additional information and for specific course requirements for the MEd and MS, potential students should contact the master's degree program coordinator in the higher education program at (940) 565-2045 or e-mail bbush@coe.unt.edu.

Doctor of Education, Doctor of Philosophy

Admission Requirements

Students seeking admission should apply for either the EdD or PhD program depending on their academic preparation, prior experience and career goals. Admission to the program is selective and restricted.

In addition to the minimum requirements of the Toulouse School of Graduate Studies and the College of Education listed under the "Admission Requirements" heading in the appropriate section of this catalog, admission to the EdD and PhD doctoral programs in higher education is contingent upon the following:

1. Submission of GRE or GMAT scores. Contact the academic program for information concerning acceptable admission test scores.
2. The quality, quantity and relevance of the applicant's prior undergraduate and/or graduate work and prior work experience in higher education administration, teaching and/or research.
3. The applicant's career objectives.
4. Submission of three professional references.
5. The grade earned on the departmental admission examination.
6. An interview by program faculty.

Each semester has an admission deadline. Contact the program for admission deadlines.

Each applicant also must receive an endorsement for admission by a majority vote of the full-time faculty members of the higher education program area.

Both doctoral programs offered in higher education enable students to acquire knowledge about and evaluate major organizational, behavioral and learning theories applicable to higher education; to conduct applied and/or original research in the field of higher education; to become familiar with past, present and emerging patterns of organization and professional administrative practice in higher education; and to observe and participate in the actual practice of higher education administration and/or research. However, the two programs differ significantly in length and emphasis and in course work, research tool, minor field and dissertation requirements.

Doctor of Education

The EdD program in higher education is designed for individuals interested primarily in the application of theory to practice. It is particularly appropriate for persons who aspire to administrative leadership careers in one or more of the following areas.

- Senior leadership positions in four-year colleges and universities, such as dean of students, vice

president for student affairs, dean of administration, vice president for administration, vice president for development, assistant to the president, dean of continuing education and dean of a college of education.

- Senior leadership positions in two-year community colleges, junior colleges and vocational/technical institutes, such as department chair, dean of libraries, dean for instruction, dean of students, dean of administration, vice president and president.
- Higher education middle management administrative positions in student affairs, administrative affairs, business affairs and development in all types of institutions of higher education, including such positions as director of housing, director of financial aid, director of student services, director of student life/student activities, director of student center, director of purchasing, director of auxiliary services, director of institutional research, director of development, director of human resources and director of continuing education.
- Senior administrative and staff positions in higher education coordinating and/or governing agencies in state, regional and federal government.
- Administrative leadership positions with higher education accrediting agencies, professional associations, consortia and other professional organizations.

Degree Requirements

1. **Higher education doctoral core** (15 hours). Provides the student with a broad overview and integrated perspective of higher education as a field of study and academic enterprise: EDHE 6050, 6510, 6520, 6700 and 6710.
2. **EdD base course requirement** (9 hours). Provides the student with a knowledge of the main areas of administrative specialization common to most institutions of higher learning. Each student must complete at least three of the following base courses: EDHE 6570, 6720, 6730, 6740, 6760, 6780 and 6790.
3. **Internship** (6 hours). Intended to help the student better relate theoretical concepts to administrative practice and to gain work experience in one or more areas of higher education administration.
A supervised administrative internship of up to 180 clock hours (90 clock hours for each 3 semester hours of course registration) is required of any student who has not been employed in a full-time administrative position in an institution, agency or professional association of higher education for at least one academic year, or the equivalent (as determined by the higher education faculty), prior to taking written comprehensive examinations.
4. **Minor or cognate area** (15 hours). The student completes a minor of at least 12 semester hours from

courses outside the department, or a cognate in an area of specialization in higher education.

5. **College of Education research core** (6 hours). The College of Education requires that each student complete EDER 6010 and 6020.
6. **Higher education program research course requirement** (3 hours): EDHE 6530.
7. **Dissertation research requirement** (minimum of 12 hours). The EdD dissertation may be related to immediate operational problems of any aspect of higher education, either in an analysis and solution format or in an application of theory or research context.
8. **Minimum total for EdD** (60–66 hours beyond the master's or 90–96 hours beyond the bachelor's degree).
9. **To meet the residency requirement for the EdD**, students must enroll in a minimum of 18 semester hours during a calendar year.

Doctor of Philosophy

The PhD program in higher education is designed for individuals primarily interested in the scholarly inquiry and/or teaching of higher education as a field of study. The PhD in higher education is particularly appropriate to the following careers:

- academic and research positions in graduate instructional programs of higher education, higher education institutes and centers for the study of higher education;
- applied and management research positions in institutions of higher learning, government agencies, consortia of higher education institutions and higher education professional associations; and
- senior administrative positions in four-year colleges and universities where in-depth knowledge and understanding of the conceptual bases of higher education administration are required.

Degree Requirements

1. **Higher education doctoral core** (15 hours). Provides the student with a broad overview and integrated perspective of higher education as a field of study and academic enterprise: EDHE 6050, 6510, 6520, 6700 and 6710.
2. **PhD base course requirement** (9 hours). Provides the student with the contextual basis of higher education and organizational concepts common to the teaching, administration and study of higher education. Each student must complete at least three of the following courses: EDHE 6500, 6550, 6570, 6720, 6740, 6760, 6780 and 6790.
3. **Higher education elective course requirements** (6 hours). Courses are to be selected from the program's course inventory and should enable the

student to gain either a broader exposure to the various specializations in higher education or an in-depth knowledge of one particular area of specialization.

4. **Internship (6 hours).** An administrative and/or research internship of up to 6 semester hours is required of students who have not been employed in a full-time administrative position, or a teaching or research position in an institution, agency or association of higher education for at least one academic year, or the equivalent (as determined by the higher education faculty), prior to taking qualifying examinations. Administrative internships consist of at least 90 clock hours of closely supervised administrative work per 3 semester hours of credit and culminate with a written report of the internship experience. Research internships require the close supervision of the student's research project by a graduate faculty member of the university and culminate in a publishable or presentable research paper.

5. **Minor or cognate area (12 hours).** The student completes a minor of at least 12 semester hours from courses outside the department, or a cognate field of 12 semester hours in an area of specialization in higher education.

6. **College of Education research core (6 hours).** The College of Education requires that each student complete EDER 6010 and 6020.

7. **Higher education program research course requirement (3 hours):** EDHE 6530.

8. **Research tool requirement (9 hours).** Each PhD candidate must be competent in the modes of scholarly inquiry common to the major field of study. The higher education program requires PhD students to complete 9 hours in statistics and research methodology beyond EDER 6010 and 6020.

9. **Dissertation research requirement (minimum of 12 hours).** The principal goal of the PhD dissertation is the demonstration of the student's ability to conduct independent research. The research design, sampling procedures and methods of analysis must be congruent with the modes of inquiry used in conducting research on higher education and must be a report of independent research generating knowledge with generalizable characteristics discussed in depth. Moreover, the dissertation must be of publishable quality and make a bona fide contribution to pressing or emerging issues in higher education.

10. **Minimum total for PhD (72–78 hours beyond the master's or 102–108 hours beyond the bachelor's degree).**

11. **To meet the residency requirement for the PhD,** students must enroll in a minimum of 9 semester hours for two consecutive terms/semesters. This may be a fall and spring, or spring and summer, or summer and fall.

Collaborative Program for Doctoral Study in Higher Education

The UNT program in higher education and the Dallas Theological Seminary (DTS) offer a collaborative program of study for a doctorate in higher education for the development of senior-level administrators for private, religious-affiliated colleges, universities and seminaries. Students who have not completed a master's degree may enroll at DTS and after completing 36 semester hours of approved master's course work may apply to the doctoral program in higher education at UNT.

A DTS graduate faculty member will serve as minor professor on the doctoral committee of a student in this program. Applicants for this program must meet the standard admissions and program requirements at each institution.

For detailed information on this program, please contact both UNT and DTS. At UNT contact the coordinator of the program in higher education. At DTS contact the chair of the Christian Education Department.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Kinesiology, Health Promotion and Recreation

Main Office
Physical Education Building, 209
P.O. Box 310769
Denton, TX 76203-0769
(940) 565-2651

Web site: www.coe.unt.edu/khpr

Jeff E. Goodwin, Chair

Graduate Faculty: Chng, Collins, Driver, Goggin, Goodwin, Greenleaf, Hamson, Hill, Hodges, Jackson, Keller, Martin, McKenzie, Morrow, Patton, Walker, Weiller-Abels, Williamson.

The Department of Kinesiology, Health Promotion and Recreation offers graduate programs leading to the following degree:

- Master of Science with majors in kinesiology and recreation and leisure studies.

The degrees offered and the career opportunities afforded by the degrees are outlined in the program descriptions below.

Admission Requirements

Applicants for admission into the department's graduate programs are expected to have the following qualifications to obtain unconditional admission:

1. Bachelor's degree from an accredited college or university.
2. Candidates must meet minimum master's admissions requirements to the Toulouse School of Graduate Studies.
3. Minimum undergraduate grade point average (GPA) of 2.8 overall or a 3.0 for the last 60 hours or a minimum 3.4 master's GPA. A lower GPA (2.6 overall or 2.8 in the last 60 hours) may be considered on an individual basis at the departmental level along with other factors (e.g., undergraduate academic institution, course work listed on the student's transcript, completion of a previous master's degree).
4. Submission of verbal, quantitative, and analytical writing GRE scores are required. Miller Analogies Test (MAT) or Graduate Management Admissions Test (GMAT) scores can be substituted for the GRE. The program views high test scores as a predictor of future success. Lower test scores will be considered if

other criteria indicate ability to be successful in the program.

5. A typed, 300-word candidate's statement which includes the candidate's purpose in pursuing graduate study at the University of North Texas, career objectives, goals and a discussion of the candidate's particular interest area.
6. Individual programs may have additional requirements. Applicants should contact the program for details.

Center for Sport Psychology and Performance Excellence (CSPPE)

The CSPPE is a multidisciplinary center devoted to offering sport psychology interventions, research and training. The center combines the expertise of faculty in psychology and kinesiology to produce the most comprehensive and state-of-the-art sport psychology services available.

Kinesiology Degree Program

The primary purposes of the program in kinesiology are to provide students with an understanding of basic research methodology; to acquaint students with the professional literature, trends and research being conducted in kinesiology; and to enable students to take electives in an area of interest, such as sport psychology, exercise physiology, health/fitness management, motor behavior and teacher behavior.

Career opportunities for graduates are generally found in the private sector with health clubs, wellness centers, corporations, rehabilitation centers, athletic groups and other private groups; or within the teaching profession as teachers, coaches, athletic trainers and administrators.

Research

Current research in kinesiology includes the study of overtraining and burnout, mental health benefits of physical activity, and exercise and fitness in special populations. Other projects include the study of anxiety and motor performance, mental preparation strategies and maximum performance, central versus peripheral cardiovascular adjustments to exercise, measurement and evaluation of physical fitness, age and physical activity and fitness, sociological profiles of sport consumers, regional commercial sport development, gender-sport issues in the 21st century, job characteristics and work production of sport/fitness personnel, and professional preparation of high school and college teachers.

Financial support for the research programs comes from internal faculty research grants and instructional grants, as well as external funding agencies.

Master of Science

The Master of Science 36-hour degree includes a 15-hour core curriculum of courses in kinesiology. The student takes 21 hours of additional course work (which may include thesis) that allow development of an interest area such as sport psychology, exercise physiology, health/fitness management, motor behavior, sport sociology and teacher behavior.

Degree Requirements

1. 36 semester hours are required.
2. All students will complete a 15-hour core of graduate courses in kinesiology.
 - KINE 5090, Motor Behavior
 - KINE 5100, Research Perspectives in Kinesiology, Health Promotion and Recreation
 - KINE 5121, Sport and Exercise Psychology
 - KINE 5150, Quantitative Procedures in Exercise and Sport Sciences
 - KINE 5301, Physiology of Exercise
3. The remaining 15–21 hours will be electives approved by the major professor with no more than 6 hours outside of KINE.
4. Thesis students will complete KINE 5950 (6 hours).
5. Master of Science candidates who select the non-thesis option are required to successfully complete a culminating experience consisting of (1) a comprehensive examination or (2) a graduate project (enroll in KINE 5190). If choosing the comprehensive examination, it must be taken after a minimum of 24 hours including all KINE core courses. A student who fails the comprehensive examination must wait until the next administration of the exam. This will delay the student's graduation.

Recreation and Leisure Studies Degree Program

The Master of Science degree program with a major in recreation and leisure studies is designed to prepare students for management-level positions within the leisure service field or the therapeutic recreation area, or for further graduate work in recreation and leisure studies.

Career opportunities include leadership and management positions in various agencies such as municipal recreation departments, not-for-profit agencies, resorts, military bases, commercial recreation enterprises, sport facilities, schools, hospitals and rehabilitation centers, long-term care facilities, state or federal agencies, parks, outdoor education centers, camps, YMCAs, intramural and campus recreation programs, corporations and fitness clubs.

Research

Research emphases of the recreation and leisure studies faculty include the examination of antecedents to leisure, the benefits and consequences of leisure, the assessment of leisure functioning, the administration of leisure services, the barriers or constraints to leisure and the future of leisure in society. The faculty also conduct research on various methods and techniques used in professional practice. Specific research examples include older adults' health and well being, disability and sport, organizational behavior, administration of leisure services, human resources, and recreation and leisure opportunities for disenfranchised and under-represented groups.

Financial support for research programs is generated by the faculty from internal university resources and external grants and contracts.

Master of Science Degree Program

The graduate program in recreation and leisure studies provides a 36-hour Master of Science degree, with opportunities for students to take course work in program management and therapeutic recreation.

Additional Admission Requirements

Applicants for admission into the recreation and leisure studies graduate program must submit a current resume and a typewritten statement of purpose describing their reason(s) for seeking graduate study in recreation and leisure studies. In addition, two letters of reference pertaining to the applicant's aptitude for graduate work are required. These materials should be sent to the recreation and leisure studies program coordinator.

Students without an undergraduate degree in recreation, parks, or leisure studies are required to take up to 9 hours of prerequisite or corequisite course work.

Every student is required to take 15 hours of core courses:

- RECR 5010, Perspectives in Leisure
- RECR 5050, Administration and Supervision of Recreation and Sport
- RECR 5070, Psychosociological Dynamics of Leisure Behavior
- RECR 5100, Research Perspectives in Kinesiology, Health Promotion and Recreation
- RECR 5120, Concepts in Therapeutic Recreation

Students with a career interest in program management take the following 9 hours of elective courses: RECR 5060, 5080 and 5850. Students with a career interest in therapeutic recreation take the following 9 hours of elective courses: RECR 4760, 5130 and 5870.

Both thesis and non-thesis options are available. Students selecting the thesis option will register for 6 hours of thesis credit (RECR 5950) and will complete a 6-hour minor. Students selecting the

non-thesis option will register for RECR 5110 and will complete a 9-hour minor. Non-thesis students will complete a written comprehensive examination appropriate to the selected interest area.

Students with no work experience in recreation and leisure services and those preparing for certification in therapeutic recreation with no prior therapeutic recreation internship will be required to complete RECR 5860 as a deficiency (does not count on the degree plan).

An area of emphasis (6–9 hours) to complete the 36-hour program is selected in consultation with the graduate adviser. Recommended areas of emphasis include public administration, sociology, computer science, education, business, psychology, rehabilitation studies, gerontology, kinesiology and health promotion.

The program in recreation and leisure studies is accredited by the National Recreation and Park Association/American Association of Leisure and Recreation Council on Accreditation [22377 Belmont Ridge Road, Ashburn, VA 20148: (703) 858-0784].

Health Promotion Degree Program

The program in health promotion seeks to improve personal and community health through its educational, research and service programs.

Graduates of the program are employed in a wide range of school and community health settings; public health departments; voluntary organizations; corporate and other work-site settings; health-care environments; federal, state and local agencies; professional health organizations; hospital-based health programs; commercial health promotion settings; and elementary and secondary schools.

Research

Current research of the faculty in the health promotion program includes investigations of the impact of HIV/AIDS on dating and sexual behavior, study of issues of sexuality, epidemiological analysis of the psychosocial determinants of health behavior among school children and cross-cultural correlates of health promotion. Other research includes the study of a socio-psychological perspective on health, especially the effects of stress and divorce on mortality and morbidity. Faculty includes Research Fellows of National Health Promotion Societies.

Financial support for the research programs comes from internal faculty research grants and instructional grants, as well as external funding agencies.

Master of Science

Program is currently not accepting students.

The program offers a Master of Science degree that emphasizes the scientific base of community and school health, and the investigation of community health-related problems. This degree allows pursuit of

special academic interests, yet requires a core of study in school and community health-related issues.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The “Course and Subject Guide,” found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Teacher Education and Administration

Main Office
Matthews Hall, 206

P.O. Box 310740
Denton, TX 76203-0740
(940) 565-2920

Web site: www.coe.unt.edu/tea

Mary M. Harris, Interim Chair

Program Offices and Advising:

Curriculum and Instruction
Matthews Hall, 218
(940) 565-2922

Educational Administration
Matthews Hall, 218
(940) 565-2175

Elementary Education, Initial Certification (EC–4, 4–8)
Matthews Hall, 204(940) 565-2826

Reading Education
Matthews Hall, 218
(940) 565-2922

Secondary Education, Initial Certification (8–12)
Matthews Hall, 204
(940) 565-2826

Field Experience (PDS, Student Teaching)
Matthews Hall, 206
(940) 565-4226

Graduate Faculty: Adkison, Byrd, Bane, Camp, Contreras, Crocker, Day, Esprivalo-Harrell, Fox, Harris, Hudson, Huffman, Kemmerer, Laney, Leavell, Luttrell, Mathis, Milson, Mohr, Pasternak, Patterson, Rodriguez, Silva,

Simms, Smith, Teeter, Tunks, van Tassel, Wickstrom, Wilhelm, Williamson.

The Department of Teacher Education and Administration offers graduate programs to develop highly competent teachers, school administrators and others who wish to provide educational leadership to organizations. Effective instruction, curriculum development and evaluation are emphasized in all programs. Students use current theory and research to make decisions about effective practice. The department also strives to improve practice through generation of new knowledge and through service to educational institutions, governmental agencies and practitioners at all levels.

Masters degrees in curriculum and instruction, reading, secondary and educational administration (principal certification) allow students to apply for the Texas professional certificates and assume building level leadership and departmental responsibilities in curriculum and instruction. Foundations courses provide philosophical, psychological and sociological backgrounds for educational decisions and practices.

Doctoral programs in curriculum and instruction, educational administration (superintendent certification) and reading prepare students for advanced positions of educational leadership in schools, school districts and other educational settings.

The programs in this department are accredited by The National Council for the Accreditation of Teacher Education (NCATE) [2010 Massachusetts Avenue NW, Suite 500, Washington, D.C. 20036-1023 (202) 466-7496], and the State Board for Educator Certification (SBEC) [1710 North Congress Avenue, 5th Floor, Austin, TX 78701; (888) 863-5880]. Programs are approved by and operate according to the guidelines and policies of the Texas Higher Education Coordinating Board [P.O. Box 12788, Austin, TX 78711-2788; (512) 483-6101].

Research and Collaboration

Research and professional contributions of faculty are far ranging, from curriculum guides and textbooks in wide use throughout Texas and the United States to intensive training grants for teachers, school evaluation projects and studies of school finance and school choice. Each area represented in the department strives to make contributions to improving instruction for students throughout their school years.

Both research and service goals of the department are served through interdisciplinary efforts with other departments in the College of Education, the university and school districts. The Child Development Laboratory, Child and Family Resource Clinic, Center for the Study of Educational Reform and Professional Development Schools are also sites for interdisciplinary efforts.

Admission Requirements

In addition to the requirements for admission to the graduate school at the University of North Texas and the College of Education, each degree program may specify additional requirements for acceptance into programs. Please refer to the admission requirements listed for each degree program.

Admission, Review and Retention (ARR) Committee

Instructors in the Department of Teacher Education and Administration have the right and responsibility to refer a student to the departmental ARR Committee if they have a concern about the student's academic progress, behavioral characteristics or communication skills that indicate potential problems in school settings. The ARR Committee reviews referrals made by faculty and determines a course of action. The ARR Committee also reviews student appeals and determines a course of action regarding changes in the student's course of study.

Graduate Scholarships and Assistantships

A limited number of teaching fellowships and assistantships are available for graduate students.

These opportunities include working with professors on research grants and projects or serving as a teaching assistant, working with undergraduate students in advising and degree plans, or teaching undergraduate classes and supervising student teaching. Application is made to the department chair by letter of application and a current resume. The letter should address particular strengths and interests.

A limited number of doctoral fellowships are available through the Toulouse School of Graduate Studies. Applications may be obtained through that office.

Degree Programs

The Department of Teacher Education and Administration offers graduate programs leading to the following degrees:

- Master of Education with majors in curriculum and instruction, educational administration, reading education, and secondary education;
- Doctor of Education with majors in curriculum and instruction, educational administration, and reading education; and
- Doctor of Philosophy with majors in curriculum and instruction, educational administration, and reading education.

In addition, the department offers support courses in educational foundations.

A doctoral program in reading education is offered in federation with Texas Woman's University.

Post-Baccalaureate Teacher Certification Options

See the College of Education section in this catalog.

Curriculum and Instruction Degree Programs

Master of Education

The Master of Education degree with a major in curriculum and instruction was designed to enhance the knowledge and expertise of practicing teachers, combining theoretical perspectives and research-based practice with multiple opportunities for field-based projects and action research. Its goal is to support teachers as they assume leadership roles at the campus and district levels.

Admission Requirements

1. A valid Texas teaching certificate or equivalent.
2. Admission to the Toulouse School of Graduate Studies as a degree seeking candidate with a major in curriculum and instruction.
3. Submission of scores on the GRE, as well as any additional program specific admission materials. Contact the academic program for information concerning additional admission requirements.

Course Requirements

EDCI 5130, 5320, 5360, 5710, 5720; EDSP 5755; 18 additional hours in one or more academic resource areas, as approved by the department. A portfolio presentation is required within the culminating course, EDCI 5720.

Doctor of Education, Doctor of Philosophy

The program offers graduate education leading to the Doctor of Education and Doctor of Philosophy with a major in curriculum and instruction.

The goals of the doctoral program in curriculum and instruction are to prepare professional educators who are skilled and knowledgeable in analyzing and directing curriculum policy and in developing, implementing and evaluating curriculum products and instructional practices. The program offers a course of study with an interdisciplinary major in curriculum and instruction for grades K–12.

A research-oriented Doctor of Philosophy and a practitioner-oriented Doctor of Education are offered. Typically, the PhD program is recommended for students whose career ambitions include such activities as (1) researcher in a public or private sector research and development center or (2) professor in a collegiate program of teacher education. The EdD program is recommended for students whose career

ambitions include administrative and supervisory positions in school districts.

Admission Requirements

Admission to the doctoral program in curriculum and instruction takes into consideration several critical factors deemed important for success in graduate studies. No single factor determines an individual's eligibility for admission.

Admission to the EdD or PhD program in curriculum and instruction is a two-step process. Each applicant first must apply to and meet the general admission requirements of the Toulouse School of Graduate Studies.

Applications for students who meet initial admission standards are forwarded to the faculty in curriculum and instruction for review. Initial acceptance into the program is contingent upon the applicant meeting the following program admission standards in addition to the general requirements listed in the College of Education section.

1. A minimum grade point average of 3.4 on the master's degree.
2. Submission of scores on the GRE as well as any additional program-specific admission materials. Contact the academic program for information.
3. Three years of successful teaching experience or related acceptable experience. In the event the student does not meet this requirement, the faculty in curriculum and instruction may recommend the student participate in extensive practicum or internship experiences as part of the doctoral degree requirements. This practicum or internship will be in addition to that required as part of the regular degree program.
4. Applicants must complete an application form, which may be obtained from the Department of Teacher Education and Administration. Applicants must submit the following to the curriculum and instruction faculty for review: a letter of intent to pursue doctoral studies in curriculum and instruction, a professional resume and three letters of recommendation from persons who can testify to the applicant's ability to do advanced work. In addition to the listed criteria, the faculty may consider the applicant's related work experience, publications, presentations to professional organizations, leadership roles, teaching excellence, awards and other activities that provide evidence of potential success in a doctoral program.
5. Applicants must complete successfully the written admissions examination within their first 12 hours of course work to receive unconditional admission.

Residency Requirement for the EdD and PhD

To meet the residency requirement, EdD students are required to enroll in a minimum of 18 semester

hours during a calendar year. PhD students are required to enroll in a minimum of 18 semester hours during two consecutive long semesters (fall-spring, spring-fall, spring-summer or summer-fall). Residency must be completed prior to attempting the written qualifying exam.

Course Requirements

Required common courses for both the PhD and EdD include the curriculum and instruction core courses: EDCI 6110, 6220, 6230, 6340, 6350 and 6460; research courses EDER 6010 and 6020; 6 hours in technology; 24 hours in a related field of study; and 12 hours of dissertation.

The PhD program also requires the following courses: research courses EDER 6210 and 6280; 3 to 9 hours of mentorship, which may be met by research assistantship, independent study on a basic research problem, and/or additional course work in research. A 9-hour tool subject also is required. The tool subject may be met through educational research or computer education.

In addition to the common courses, the EdD requires a 6- to 9-hour practicum that may include evaluation studies, action research, and/or supervisory studies.

Additional course work may be required, depending on the candidate's previous experience.

Educational Administration Degree Programs

Certification Only

The Texas principal's certificate requires a master's degree with 39 semester hours of graduate credit. The superintendent's certificate requires an additional 21 hours. Requirements are listed in the College of Education section.

Master of Education

Major in Educational Administration

A Master of Education degree program in educational administration is available. This program leads to certification as a principal. A minor field is not required, but students must take at least one course outside the program area.

Admission Requirements

Admission to graduate study is described in the College of Education and the Toulouse School of Graduate Studies sections. To complete admission requirements for the educational administration program, the student must request an admissions application packet from the educational administration program office. Among the required steps are:

1. Bachelor's degree from an accredited college or university. If a candidate already holds a master's

degree, the courses and the candidate's performance in that degree are reviewed.

2. Bachelor's grade point average (GPA) of 2.8 or higher overall, or bachelor's GPA of 3.0 or higher for the last 60 hours, or completed master's degree GPA of 3.4 or higher.

3. Submission of GRE scores is required: verbal, quantitative, and analytical writing. The program views high GRE scores as positive indicators of potential success in the program; however, low GRE scores need not exclude a candidate who shows positive indicators in other areas.

4. A letter of recommendation from the applicant's supervisor identifying the applicant's reading, critical thinking and writing skills.

5. Applicants submit an essay describing why they are seeking a master's degree in educational administration, identifying relevant educational experiences and strengths, and providing evidence why they will be successful educational leaders in an increasingly multicultural environment.

6. Resume or curriculum vitae that includes the candidate's previous work and educational experiences. The applicant will have had two (2) years professional experience.

7. The applicant must submit a program application form.

Course Requirements

Required for major: EDAD 5300, 5330, 5390, 5400, 5600, 5610, 5620, 5630, 5650, 5680 and 5700. The student must select one course from the following: EDAD 5550 or any approved course from EDCI, EDEE, EDSE, EDER, EDSP, EDRE, ATTD, CECS.

Prerequisite(s): provisional teaching certificate and two years of teaching experience in an accredited school.

Doctor of Education, Doctor of Philosophy

Doctor of Education and Doctor of Philosophy degrees are offered with a major in educational administration. For the Doctor of Education, a minor field may be selected from any other discipline at the university. For the Doctor of Philosophy, a minor field must be selected from a discipline outside the field of education.

The PhD program prepares individuals to conduct and evaluate research that will expand knowledge in educational administration. Typically, the PhD student plans a career as a university professor, as a policy analyst, or a research director in a state or local education agency.

The EdD program is designed for students who plan careers as school administrators. Certification as a superintendent may be part of this program. This

degree emphasizes the application of educational research and accepted management practice to educational administration. The aim of this program is to assist students to prepare for leadership roles in education.

Admission Requirements

A uniform admission date has been established in the spring semester for both the EdD and PhD programs. Applicants must check with the educational administration program office to obtain information about necessary dates. Applicants must apply for admission to either the EdD or PhD program in educational administration. Students applying for the PhD program will be expected to declare as an objective a career as a university professor or a research position within a state or federal agency or school district. Students applying for the EdD program will be expected to declare as an objective a career as a school administrator.

Applicants must meet requirements for admission to the Toulouse School of Graduate Studies, general education requirements (as listed in the College of Education section of this catalog) and the departmental requirements for admission to doctoral study.

A candidate for admission to either doctoral program must have completed 24 hours in education at the undergraduate or master's level. Students who do not have a master's degree in school administration must complete a minimum of 15 hours of deficiency courses in educational administration. These courses, generally taken prior to or concurrent with the doctoral requirements, are specified by the student's major professor.

It is expected that applicants will have had experience as public or private school teachers and will hold a teacher's certificate.

Traditionally, doctoral students in educational administration who have scores of 450 and above on the verbal and on the quantitative sections of the Graduate Record Examination are most likely to complete their degrees successfully. Applicants who score below 450 on either the verbal or quantitative section of the exam are not precluded from applying for admission.

Each EdD and PhD applicant must submit an admissions portfolio that contains the following:

1. Letters of recommendation are required from three persons who can give evidence of the applicant's reading, writing and critical thinking skills. One of the letters should be from a college or university professor, and one letter should be from a supervisor familiar with your professional work.
2. The applicant must submit a detailed resume.
3. The applicant will have had experience as a public or private school teacher at the elementary or secondary school level.

4. It is expected that the applicant will have had experience in administrative, managerial or other leadership positions.

5. The applicant should submit a three-page personal statement. (Contact program for details.)

6. The applicant should submit a sample of the individual's best written work in the form of a published article or book chapter, a research term paper, or a district or agency report.

7. Applicants will submit a three-page assessment describing their current reading critical thinking, and writing skills.

8. Applicants must complete a written admissions exam. The admissions exam is given once each year in February.

It is up to the student to make sure that all requested items have been submitted. The purpose of the admissions exam is to ascertain organizational abilities; capacity for rational thinking; and writing skill. Prior to the admissions exam, each student will be given a book chapter, research paper, or book to read. The questions on the admissions exam will relate to the prior reading assignment.

Residency Requirement

To meet the residency requirement for the EdD program, students are required to enroll in a minimum of 18 semester hours during a calendar year. For the PhD program, students must enroll full-time (a minimum of 9 semester hours) during both fall and spring semesters.

Doctor of Education Degree Requirements

The following are minimum degree requirements for students in the EdD program.

1. **Core courses:** EDAD 6100, 6510, 6520, 6530, 6570, 6580.
2. **Research and statistics:** EDER 6010, 6020.
3. **Educational administration electives:** 9 hours selected based on the student's career focus.
4. **Minor field:** 15 hours selected from a single field based on the student's career focus.
5. **Dissertation:** 12 hours minimum.

Doctor of Philosophy Degree Requirements

The following are minimum degree requirements for students in the PhD program.

1. **Core courses:** EDAD 6100, 6400, 6510, 6570; plus two courses selected from EDAD 6110, 6310, 6900.
2. **Research and statistics:** EDER 6010, 6020; plus one from EDER 6210, 6220, 6230 and 6280.
3. **Philosophy:** Either EDUC 6150 or PHIL 5110 or 5260 or equivalent approved by major professor.

4. **Educational administration electives:** 9 hours selected from a list established by the department.
5. **Minor field:** 15 hours outside the college in a field related to the student's area of research interest.
6. **Dissertation:** 12 hours minimum.
7. **Tool subject:** Competency in a tool subject must be demonstrated by completing either 9 hours of computer science or equivalent courses (over and above other computer-related courses listed on the degree plan) or 9 hours of research courses (over and above other research courses listed on the degree plan). Proficiency in a foreign language also can be used to satisfy this requirement if knowledge of the language is necessary for completing the student's dissertation research. Possible use of native language to meet this requirement will be determined by the doctoral committee of the student. Such students may either be allowed to take and pass a proficiency exam in native language or complete 9 hours of foreign language.

Elementary Education Degree Program

Post-Baccalaureate Teacher Certification

See the College of Education section in this catalog.

Reading Education Degree Programs Master of Education

The master's degree includes the all-level reading specialist certificate.

Required for major: EDCI 5320; EDEE 5060; EDCI 5710; EDCI 5720; EDRE 5170, 5180, 5190, 5200, 5370 and 5550; 3 hours from DFEC 5653, EDEE 5140; 3 hours from EDSE 5004 or EDRE 5800, Studies in Reading (as approved by instructor).

Three years of successful teaching in an accredited school and passing the state required examination for the certification of educators in Texas are required for certification.

A portfolio is required for the master's degree in reading.

Admission Requirements

1. A resume or curriculum vitae that includes the candidate's work history, educational experiences, and relevant certifications.
2. Transcripts of post-secondary educational course work, including bachelor's degree from an accredited college or university.
3. The bachelor's degree grade point average (GPA) of 2.8 overall, or a bachelor's degree GPA of 3.0 in the

last 60 hours of course work, or a completed master's degree GPA of 3.4 or higher.

4. Submission of GRE scores is required: verbal, quantitative, and analytical writing. The program views high GRE scores as positive indicators of potential success in the program; however, low GRE scores need not exclude a candidate who shows positive indicators in other areas.
5. Three letters of recommendation from individuals who can give evidence of the candidate's reading, writing and critical thinking skills.
6. A personal, written statement from the candidate providing a brief description of his or her career and stating the goals and rationale for applying to the master's or doctoral reading program.
7. The doctoral program in reading also requires successful completion of an admissions screening that requires the candidate to respond in writing to two, self-selected, literacy-related questions.

Master Reading Teacher Certificate

See the College of Education section of this catalog.

Doctor of Education, Doctor of Philosophy

The doctoral program in reading education is a cooperative effort between the University of North Texas and Texas Woman's University under guidelines established by the Federation of North Texas Area Universities. Both the Doctor of Philosophy and Doctor of Education degrees are offered. The federated approach enables students to utilize the combined faculties, libraries, computer facilities and research opportunities available at both universities in pursuit of their doctoral studies.

The federation doctoral program provides opportunities for formal course work, independent study, participation in regional and national conferences, and dissertation research. The program also includes federation-sponsored seminars featuring outstanding nationally and internationally recognized scholars.

The doctoral program in reading education prepares educators and researchers for specialized work in reading at all levels of education. The program responds to the recognition of the value of literacy and contributes to its development in diverse social contexts, from local school districts to universities in the United States and abroad. At all levels of study, the interrelationships of theory and practice are valued, as students are led to develop theory and new knowledge leading to integrations of research and teaching.

The policies of the doctoral program are guided by committees made up of faculty from the participating institutions. The policies must be consistent with the policies of the participating universities.

Admission Requirements

Admission to the federated doctoral program in reading education is a two-step process. Each applicant first must apply to and meet the general admission requirements of the graduate school at one of the participating universities.

Applications of students who meet initial graduate school admission standards are forwarded to the Reading Education Federation Admissions Committee for review. The committee consists of one member from each institution. The admissions committee admits qualified students into either the PhD or EdD program. That decision is based on the applicants' career goals, work experience and other pertinent factors. Students who graduate from the federation program will receive their degree from the university through which they entered the program.

The applicant must meet the following program admission standards:

1. A resume or curriculum vitae that includes the candidate's work history, educational experiences and relevant certifications.
2. Transcripts of bachelor's and master's work. Candidates should hold a master's degree and have experience with literacy-related instruction and programs.
3. Bachelor's degree grade point average (GPA) of 2.8 overall, or a bachelor's degree GPA of 3.0 in the last 60 hours of course work, or a completed master's degree GPA of 3.4 or higher. For the doctoral degree, a completed master's degree with a GPA of 3.5 is required.
4. Submission of GRE scores is required: verbal, quantitative, and analytical writing. The program views high GRE scores as positive indicators of potential success in the program; however, low GRE scores need not exclude a candidate who shows positive indicators in other areas.
5. Three letters of recommendation from individuals who can give evidence of the candidate's reading, writing and critical thinking skills. Contact the reading program for more details.
6. A personal, written statement from the candidate providing a brief description of his or her career and stating the goals and rationale for applying to the doctoral reading program.
7. Successful written response to two, self-selected, literacy-related questions. The written responses are read by two or three program faculty members who represent both the UNT and TWU federated reading program.

Degree Requirements

A minimum of 60 hours beyond the master's is required, plus satisfaction of the tool subject requirement for the PhD. Based upon a review of

the preparation of each entering student, additional deficiency courses may be required.

1. The following specific degree requirements must be completed for the PhD or EdD.

- Statistics (includes basic research): 6 hours
- Major in reading education:
 - Core courses: 12 hours
 - Other 6000-level courses: 6 hours
- Minor: 12–15 hours
- Electives (subject to approval)
- Dissertation: 12 hours
- Tool subject (PhD only): 9 hours

2. For PhD students, the tool subject requirement can be met by taking 9 hours of advanced research, or 6 hours of advanced research and 3 hours of computer science. The courses must include advanced quantitative research and advanced qualitative research.

3. PhD students are expected to take a minimum of 12 hours outside the UNT College of Education.

4. For both PhD and EdD students, a minimum of 12 hours must be taken at a federation institution other than the student's home institution.

5. To complete the integrated core curriculum of the federated doctoral program in reading education, the student must complete each of the following courses. Each course will be taught at the indicated campus.

- READ 6533, Foundations for Reading: Physiological and Psychological Dimensions (TWU)
- READ 6573, Reading as Related to Linguistics (TWU)
- EDRE 6070, Politics of Literacy (UNT)
- EDRE 6080, Evolution of Literacy Research (UNT)

6. The selected courses in reading education requirement can be satisfied by completing two courses from the following lists.

UNT

- EDRE 6030, Practicum, Field Problem or Internship
- EDRE 6040, Research in Literacy Assessment and Evaluation
- EDRE 6060, Research in the Language Arts
- EDRE 6090, Cognition and Reading
- EDRE 6100, Seminar in Reading
- EDRE 6900-6910, Special Problems

TWU

- READ 6513, Observing and Responding to Young Readers
- READ 6523, Early Literacy Intervention
- READ 6553, College and Adult Reading
- READ 6583, Research in Reading
- READ 6593, Advanced Reading Research Design: Analysis and Evaluation
- READ 6663, Practicum
- READ 6903, Special Topics
- READ 6911-6913, Independent Study

7. Residency requirement: Doctoral students must complete two consecutive semesters with a minimum of 9 hours taken each semester. Consecutive semesters may include summer, and employment is not restricted.
8. Students have 10 years to complete the program. No course work beyond the master's degree that is more than 10 years old at the time the doctoral degree is conferred can be used toward the doctoral degree.
9. The student must complete successfully the common exit examinations (written qualifying examinations) prepared by the Federation Doctoral Committee, which consists of one member from each institution. The examination will consist of one and a half days of written work in the major and a half day in the minor.
10. The student must successfully develop a dissertation proposal, defend the proposal, and complete and defend the proposed research.

Doctoral Committee

Each student's program will be guided by a doctoral committee. Each committee must have a representative from the alternate federation institution who actively participates in (a) drawing up the student's degree plan, (b) evaluating the written and oral qualifying exams, (c) evaluating the dissertation proposal and final defense and (d) attending the dissertation defense.

Initial Teacher Certification with Master's Degree

See the College of Education section in this catalog.

Post-Baccalaureate Teacher Certification Without Master's Degree

See the College of Education section in this catalog.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Technology and Cognition

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Bill Elieson, Interim Chair

Graduate Faculty: Allen, Bullock, Callahan, Combes, Cox, Ditzenberger, Elleven, Ennis-Cole, Henson, Jones, Knezek, Norris, Poirot, Rademacher, Sayler, Schumacker, Tyler-Wood, Walker, J. Wircenski, M. Wircenski, Young.

The Department of Technology and Cognition offers course work in applied technology, training and development; computer education, instructional technology, cognitive systems; research design and measurement, applied statistics program evaluation; and the education of special populations and gifted learners.

Certification and degree programs in the department focus on such areas as technological solutions in education, non-traditional education, research and evaluation design, applied technology, special education and gifted education.

Financial support may be available on a limited basis for research, teaching and internships. Funds vary depending on grants and other activities of the faculty in the department.

Research

Faculty in the department have extensive research interests that include the examination of the development, delivery and evaluation of instruction in education and industrial training environments, and issues related to providing appropriate services to persons with disabilities and who are gifted.

Faculty interests include but are not limited to academic, social and behavioral assessment; designing effective instructional environments for exceptional learners; behavioral management systems for special populations, parent and professional communication and collaboration; establishment of partnerships to facilitate services for exceptional individuals; programs and procedures for gifted learners; identification of gifted and talented learners; academic acceleration; early entrance to school for college; social and emotional aspects of giftedness; microcomputer

applications; networks; telecommunications; artificial intelligence; multimedia; computer-assisted and managed instructional environments; human-computer interfaces; cognitive development and information processing of traditional and special populations; utilization of technology in assessment; ethical considerations of the application of technology; statistical modeling; program evaluation; and strategies for working with adult populations.

Grants

Grants from the U.S. Department of Education, Texas Education Agency, Job Training Partnership Program and other sources provide financial support to graduate students, depending on program needs. Tuition and stipend support is available for both full- and part-time students in the areas of emotional and behavior disorders, autism and autism intervention, and transition and correctional special education.

Texas Center for Educational Technology

The Texas Center for Educational Technology (TCET) is designed to promote research and development collaboration among universities, school districts, the Educational Service Centers and the technology industry for the purpose of integrating the use of technology into Texas schools. Educational technology information and products are disseminated statewide via monthly publications transmitted in print and electronically. Research projects focusing on technology development, use and quality are supported.

UNT Institute for Behavioral and Learning Differences

The UNT Institute for Behavioral and Learning Differences (UNT-IBLD) was created in 1993 for the advancement of research and educational issues and techniques related to individuals with unique behavioral and learning characteristics. The UNT-IBLD vision includes not only those individuals who are not keeping pace with their peer group, but also those who are advanced beyond normal expectations. The goals of the UNT-IBLD include advancing the understanding of behavioral and learning differences; developing liaisons with public and private facilities; effecting in-service development of regular education faculty; focusing on transitional strategies for community, work and postsecondary education; developing technological innovations for enhancing educational and life opportunities; and serving as a resource for professionals, parents, schools, and community and state agencies.

Degree Programs

The department offers the following degrees at the master's and doctoral level:

- Master of Education, and
- Master of Science, both with a major in applied technology and performance improvement.
- Doctor of Education, and
- Doctor of Philosophy, both with a major in applied technology and performance improvement.
- Master of Science with a major in computer education and cognitive systems.
- Doctor of Philosophy with a major in educational computing.
- Master of Science with a major in educational psychology.
- Doctor of Philosophy with a major in educational research.
- Master of Education with a major in special education.
- Doctor of Philosophy with a major in special education.

Further specialization at the master's level is offered in applied technology and performance improvement for cognitive systems, educational media, health science technology, marketing education, office education, trade and industrial education, training and development. Specializations in special education include educational diagnostician, emotional and behavioral disorders, early childhood, generic, gifted and talented, and learning disabilities. Specializations in educational psychology include educational diagnostician, gifted and talented, research and statistics, and computer education.

The department also supports an interdisciplinary master's degree in corporate training and development and an interdisciplinary doctorate with a major in information science. Additional information on these programs is available from the Toulouse School of Graduate Studies and from the School of Library and Information Sciences respectively. The doctoral program in special education is offered as part of the Federation of North Texas Area Universities.

Depending on the degree attained, graduates of these programs normally seek employment in business, education, industry, military, as teachers, trainers, program administrators, supervisory personnel, guidance counselors, training technologists, curriculum development specialists, research and evaluation specialists, and community college and university faculty members.

Applicants must meet requirements for admission to the Toulouse School of Graduate Studies and meet all requirements of the College of Education. For admission to any of the programs in this department, the applicant should file an application portfolio with the program area in which the student is interested in entering and schedule an interview with a representative of the program area. Contact the individual

program or visit their web site at www.tac.unt.edu for details about the specific admission requirements for each program.

Applied Technology and Performance Improvement Degree Programs

Master of Education

The Master of Education with a major in applied technology and performance improvement is a 36-hour program. Admission to candidacy is contingent upon submission of program specific admission materials. Contact the ATPI program for information or visit their web site: www.attd.unt.edu.

Required for major: ATTD 5110, 5120, 5130, 5140, 5160, 5440, 5480, 5530 and 5720, EPSY 5210, and 3 semester hours of applied technology, training and development courses determined in consultation with the adviser.

Required for minor: 6 hours of courses outside the department. This is the recommended degree for those seeking certification in trade and industrial education, business/office education, marketing education, career investigation and health science technology education.

Master of Science

The Master of Science with a major in applied technology and performance improvement is a 36-semester-hour program that includes 6 hours credit for thesis or problems in lieu of thesis. Admission to candidacy is contingent upon submission of program specific admission materials. Contact the ATPI program for information or visit their web site at www.attd.unt.edu.

Required courses for the major are: ATTD 5010, 5100, 5160, 5440, 5480, 5490, 5500, 5530, 5720 and 6470, EPSY 5210, and 3 semester hours of applied technology, training and development courses determined in consultation with the adviser. A comprehensive research project covering the student's field of specialization is required. This is the recommended degree for those seeking careers in the field of training and development.

Doctor of Education

The purpose of this program is to prepare administrative and supervisory personnel, community college faculty and curriculum development specialists. Admission to the program is contingent upon submission of program specific admission materials and passing a written admission exam. Contact the ATPI program for information or visit their web site at www.attd.unt.edu. Required for the major: ATTD 5430, 6030, 6100, 6200, 6210, 6450, 6460 and

6470; and 9 hours of ATTD courses. The 12 hours of research, statistics and computer requirements include ATTD 6480, EDER 6010 and 6020; and 3 hours from EDER 6230 or 6240. Dissertation credit is earned through ATTD 6950.

Required for minor: 12 hours in a field outside the major.

Doctor of Philosophy

The purpose of this program is to prepare potential university faculty and researchers and corporate training specialists. Admission to the program is contingent upon submission of program specific admission materials, passing a written admission exam and a personal interview with the faculty. Contact the ATPI program for information or visit their web site at www.attd.unt.edu. Required for major: ATTD 5100, 6100, 6200, 6210, 6450, 6460 and 6470; and 3 hours of ATTD courses and 6 hours of support courses outside the College of Education. The 18 hours of research and statistics requirements include ATTD 6480, EDER 6010, 6020, 6230 and 6240; and 3 hours from EDER 6210 or EPSY 5350. Dissertation credit is earned through ATTD 6950.

Required for minor: 12 hours of course work outside the College of Education.

Further Information

Additional information is available on the program web site (www.attd.unt.edu).

Computer Education and Cognitive Systems Degree Program

Master of Science

This degree is a comprehensive program with options to prepare individuals for positions in both education and industry related to teaching with technology. Options include design and production of technology-based instructional systems, coordination of technology programs, and development and management of instructional systems. Theoretical foundations in cognition and systems processes are expanded through applications in computer-based training, web-based training, distance education and multimedia development.

This degree is a 36-hour program. Requirements include a core of 12 hours: CECS 5210, 5310, 5610 and 5580 (which is to be taken during the last 6 hours of course work). Also required is completion of one of the program tracks and approved electives to reach a total of 36 credit hours.

Computer Education and Cognitive Systems: Instructional Systems Technology. This program track requires the completion of CECS 5200, 5260 5300 and 5420.

Computer Education and Cognitive Systems: Teaching and Learning with Technology. This program track offers preparatory courses for the following State Board of Educator Certification (SBEC) technology certification exams. To receive a barcode for these exams through the University of North Texas College of Education Student Advising Office, students must successfully complete the courses listed for each test:

- Texas Examination of Educator Standards (TExES): Technology Applications Certification 8–12 (CECS 5020, 5030, 5110, 5111)
- TExES: Technology Applications Certification EC–12 (CECS 5020, 5030, 5110, 5111, 5500)
- Texas Examinations for Master Teachers (TexMat): Master Technology Teacher Certification EC–12 (CECS 5020, 5030, 5110, 5111, 5500)

Only teachers who already have initial teacher certification are eligible for the above technology certifications. See the College of Education section of this catalog for information about initial teacher certification.

Admission Requirements

1. Bachelor's degree from an accredited college or university.
2. Bachelor's grade point average (GPA) of 2.8 or higher overall, **or** bachelor's GPA of 3.0 or higher on the last 60 hours, **or** completed master's degree GPA of 3.4 or higher.
3. Submission of GRE scores is required: verbal, quantitative, and analytical writing. The program views high GRE scores as positive indicators of potential success in the program; however, low GRE scores need not exclude a candidate who shows positive indicators in other areas.
4. At least two letters of recommendation from individuals who can give evidence of the candidate's critical thinking ability to engage in graduate studies. The recommendations should also address the candidate's ability to work independently and in groups.
5. Resume or curriculum vitae that includes the candidate's previous work or educational experiences.
6. A personal statement from the candidate stating his or her goals and rationale for applying to the computer education program and a brief description of his or her career and research expectations with regard to work and further education.

Educational Computing Degree Program

Doctor of Philosophy

Admission Requirements

Admission to doctoral study in educational computing is competitive within the capacity of the program faculty to mentor doctoral students. Each prospective student will be subjected to a competitive evaluation conducted by the computer education and

cognitive systems (CECS) graduate faculty. The admission process is competitive each term/semester for a limited number of openings. The number of openings depends upon the availability of faculty to mentor doctoral students. The minimum requirements for admission include the following:

1. Master's degree from an accredited college or university. If a candidate already holds a doctorate, the applicant should contact the program adviser. Under unusual circumstances a student may be admitted without a master's degree.
2. Master's degree GPA of at least a 3.4 on a 4.0 grading system.
3. Submission of GRE scores is required: verbal, quantitative and analytical writing. The program views high GRE scores as indicators of potential success in the program; however, low GRE scores need not exclude a candidate who shows positive indicators in other areas.
4. At least three letters of recommendation from individuals who can give evidence of the candidate's critical thinking ability to engage in doctorate studies. At least one of the letters should be from a faculty member currently working at an academic institution.
5. Personal resume or curriculum vitae that includes a summary of the candidate's previous work or educational experiences and/or training in teaching and administrating.
6. A personal statement from the candidate stating his or her goals and rationale for applying to the computer education program and a brief description of his or her career and research expectations with regard to work and further education.
7. One of the following: (a) an acceptable score on the verbal section of the GRE or (b) first or second author on an article in a respected, peer-reviewed professional journal or on a book published by a major publisher.
8. One of the following: (a) an acceptable score on the quantitative section of the GRE or (b) completion of 9 hours of graduate course work in mathematics or statistics with a GPA of 3.0 or higher (on a 4.0 grading system).
9. One of the following: (a) an acceptable score on the analytical section of the GRE or (b) written response to a problem provided by the educational computing program admissions committee.
10. Three letters of recommendation, one of which must be from a faculty member at an academic institution directed toward the applicant's potential to successfully complete a doctoral program.

Degree Requirements

This program includes formal course work, including a qualifying examination, independent study and

research (including but not limited to a dissertation). The student will spend a substantial portion of time in independent research and collaborative efforts with the faculty related to the dissertation and other projects. The doctoral degree will require a total of at least 66 semester credit hours past the master's degree.

Course Requirements

1. **Core**, 15 hours from the following: CECS 6000, Philosophy of Computing in Education; CECS 6010, Theories of Instructional Technology; CECS 6020, Advanced Instructional Design: Models and Strategies; CECS 6030, Emerging Technologies in Education; CECS 6100, Theory and Practice of Distributed Learning.
2. **Electives**, 21–27 hours from the following: CECS 6200, Message Design in Education; CECS 6210, Interactive Video; CECS 6220, Theory of Educational Technology Implementation; CECS 6230, Advanced Educational Production Design; CECS 6320, Creating Technology Based Learning Environments; CECS 6400, Educational Technology Systems Design and Management; CECS 6600, Developing Educational Funding Opportunities; CECS 6510, Analysis of Research in Educational Computing; ATTD 5010, Performance Assessment; CECS 6050, Practicum/Internship; CECS 6900, Special Problems.
3. **Research**, 12 hours: EDER 6010, Statistics for Educational Research; EDER 6020, Research Methods in Education; and 6 hours from: EDER 6210, Multiple Regression Analysis and Related Methods; EDER 6220, Classical and Modern Educational Measurement Theory; EDER 6230, Advanced Research Design; EDER 6240, Educational Data Processing; EDER 6250, Advanced Educational Measurement Applications; or EDER 6280, Qualitative Research in Education.
4. **Minor**: May be included on the degree plan with 6 hours taken as electives and an additional 6 hours from outside the program. This will increase the total number of hours for the degree to 72 semester hours.
5. **Dissertation**, 12 hours: CECS 6950, Doctoral Dissertation.

Candidates for the PhD in educational computing must additionally complete a tool subject consisting of 9 hours of graduate computer education or 9 hours of educational research.

CECS 5020 and CECS 5030 or the equivalent skills are minimally required for leveling. Additional classes or experiences may be required depending on applicant ability.

CECS 5210, 5310, 5570 or the equivalent skills are considered prerequisite to this degree. These courses may be counted as electives.

No student will count more than 9 hours for this degree from independent studies, practicum or internship.

Doctoral Committee

The doctoral committee is composed of a major professor or co-major professor, a minor professor (where the 12-hour minor option is selected) and an additional committee member. The minor professor must come from the academic unit of the minor. At least two members of the committee must be computer education and cognitive systems (CECS) faculty members.

The selection of the doctoral committee is a collaborative process between the doctoral student and the graduate faculty who will serve on the committee. Generally, the process begins with the identification of a major professor who will chair the committee. In establishing the committee, it is important to bring together a diverse group of faculty who have expertise in the various facets of the student's research agenda.

Further Information

Additional information is available on the program web site (www.cecs.unt.edu).

Educational Psychology Program Master of Science

The Master of Science in educational psychology both require 36 hours of graduate course work. The MS degree requires completion of a thesis or completion of a project, the exact nature of which is to be determined by the student's advisory committee and is the recommended degree for students preparing to seek a doctorate in a compatible field. The degree requires completion of a core of 15 hours: EPSY 5000, 5010, 5050, 5350; DFEC 5123. Also required is completion of 15 hours in one of the approved content areas:

Computer Education: CECS 5020, 5030, 5210, 5300 and 5570.

Educational Diagnostics: EDSP 5510, 5530, 5540, 5710 and 5800.

Gifted and Talented: EDSP 5105, 5110, 5120, 5130 and 5800.

Research and Statistics: EPSY 5100, 5210, 5220, 5240 and 5250.

The final 6 hours will consist of preparation of a thesis or a negotiated project.

Admission Requirements

1. Bachelor's degree from an accredited college or university. If a candidate already holds a master's degree, the courses and the candidate's performance in that degree are reviewed.
2. Bachelor's grade point average (GPA) of 2.8 or higher overall, **or** bachelor's GPA of 3.0 or higher for the last 60 hours, **or** completed master's degree GPA of 3.4 or higher.

3. Submission of GRE scores is required: verbal, quantitative and analytical writing. The program views high GRE scores as positive indicators of potential success in the program; however, low GRE scores need not exclude a candidate who shows positive indicators in other areas.
4. At least two letters of recommendation from individuals who can give evidence of the candidate's reading, critical thinking, and writing and mathematical skills.
5. Resume or vita that includes the candidate's previous work or educational experiences.
6. A personal statement from the candidate stating his or her goals and rationale for applying to the educational psychology program and a brief description of his or her career and research expectations with regard to work and further education.

Educational Research Degree Program

Doctor of Philosophy

Admission to the program is selective and restricted. Applicants are considered throughout the year; however, applicants are not formally admitted into the doctoral program until the fall term/semester and only if they meet the preceding February 1 deadline and other requirements as specified by the program. For information on additional requirements, please contact the educational research program office.

Applicants must meet requirements for admission to the Toulouse School of Graduate Studies.

1. Master's degree from an accredited college or university or 30 hours of graduate credit from an accredited institution.
2. A grade point average (GPA) of 3.4 or higher overall on a 4.0 point system.
3. Submit GRE scores on the verbal and quantitative sections for the current academic year. The program views high GRE scores as positive indicators of potential success in the program; however, low GRE scores need not exclude a candidate who shows positive indicators in other areas.
4. Three letters of recommendation from individuals knowledgeable of the candidate's capabilities, particularly as it regards research capacity.
5. Transcripts of course work.
6. Resume or curriculum vitae that includes the candidate's previous work or educational experiences.
7. Sample of scholarly writing skills.
8. A personal statement from the candidate stating his or her goals and rationale for applying to the educational research program. Include a brief statement describing career and research expectations with regard to work and further education.

9. Contact the EDER program for information or visit the web site at www.coe.unt.edu/eder. Courses required for the major: EDER 6030 (3–6), 6210, 6220, 6230, 6240, 6250, 6260, 6270 and 6280; plus 3 hours to meet individual needs and interests; plus EDER 6010, 6020 and 6950 as required of all doctoral candidates.

Required for the minor: 12 hours outside the major selected with the advice of the advisory committee.

Further Information

Additional information is available on the program web site (www.coe.unt.edu/eder).

Special Education Degree Programs Master of Education

The Master of Education in special education includes certification in special education, gifted education and educational diagnostics. In addition, a student may choose a course of study that does not include certification, but has an emphasis in autism, behavioral intervention, emotional/behavior disorders, traumatic brain injury or transition.

Recommended minors include, but are not limited to, applied behavioral analysis, criminal justice, educational technology, reading education and rehabilitation studies. Students seeking certification should check the specific requirements for the minor area.

Admission Requirements

1. Bachelor's degree from an accredited college or university. If a candidate already holds a master's degree, the courses and the candidate's performance in that degree are reviewed.
2. Bachelor's grade point average (GPA) of 2.8 or higher overall, or bachelor's GPA of 3.0 or higher in the last 60 hours, or completed master's degree GPA of 3.4 or higher.
3. Submission of GRE scores is required. The special education program generally views strong GRE scores as a positive indicator of potential success in any robust graduate program; however, low GRE scores need not exclude a candidate who shows positive indicators in other areas.
4. The special education program requires at least two letters of recommendation from individuals who can give evidence of the candidate's critical thinking ability as it relates to engaging successfully in graduate studies.
5. Resume or curriculum vitae that includes the candidate's previous work and/or educational experiences, including teaching certifications and degrees held.
6. A personal statement from the candidate stating his or her goals and rationale for applying to the special education program and a brief description of his or her career and research expectations with regard to work and further education.

Degree Requirements

Specific master's degree requirements are listed below. Course substitutions may be made by the faculty adviser.

Special Education: EDSP 5210, 5240, 5330, 5430, 5510, 5670, 5710, 5720, 5730, 5740 and 5750; 6 hours of electives; valid Texas teaching certificate at the time of application for endorsement.

Special Education: Emotional/Behavior Disorders: EDSP 5240, 5330, 5510, 5600, 5610, 5620, 5630, 5640, 5670, 5710 and 5720; EPSY 5210; 3-hour elective; valid Texas generic special education teaching certificate (or must pursue simultaneously).

Special Education: Gifted and Talented: EDSP 5105, 5110, 5120, 5130, 5410, 5510, 5550 (or two years of documented teaching in a gifted and talented program) and 5710; 6 hours from 5240, 5330 and 5900; 6 hours of electives; valid Texas teaching certificate at the time of application for supplemental gifted certification.

Special Education: Educational Diagnostician: EDSP 5210, 5240, 5330, 5510, 5530, 5540, 5550, 5600, 5710 and 5720; one course in each of the following areas: functional assessment, legal aspects of special education and human development; valid Texas teaching certificate in special education or a related area and three years of successful teaching experience at the time of application for certification.

Special Education: Correctional Special Education: EDSP 5240, 5330, 5600, 5620, 5640, 5650, 5670 and 5800 (when taught as "Positive Behavioral Interventions and Support"); CJUS 5470; 3 hours from ATTD 5400 or CJUS course (selected in consultation with program adviser); 6 additional hours in EDSP 5200 and 5510.

Special Education: Transition: EDSP 5240, 5330, 5600, 5620, 5630, 5640, 5660 and 5670; 3 hours from ATTD 5440, 5470, 5490 or RHAB 5060, 5720, 5730; 6 additional hours in EDSP 5510 and 5710.

Requirements for special education certificates and endorsements are described in the College of Education section.

Doctor of Philosophy

Applicants must meet requirements for admission to the Toulouse School of Graduate Studies. The general requirements for education are described in the College of Education section. The PhD in special education is offered as a cooperative program between the University of North Texas and Texas Woman's University under guidelines established by the Federation of North Texas Area Universities. The program enables students to use the combined faculties, libraries, computer facilities and research opportunities available at both universities in the development of their doctoral studies.

The federation doctoral program provides opportunities for formal course work, independent study, internships, practicum and dissertation research. The program also includes federation-sponsored seminars featuring outstanding nationally and internationally recognized educators.

Given the importance of appropriate educational experiences during the early years for both the individual and the society at large, graduate programs are needed that provide education for future leaders in the conceptualization and provision of special education programs, as well as expertise in conducting research that will extend understanding of the importance and means of providing special education experiences. The purpose of the federated doctoral program in special education is to train professional educators to assume leadership roles in higher education and in public and private education settings. Graduates of both institutions have a broad base of information and are prepared to assume diverse roles, including teaching, research and administrative responsibilities.

Students initially apply for admission to the graduate school of one of the participating universities. After meeting the general university admission standards, each student's application is then reviewed by the Special Education Federation Admissions Committee, made up of faculty from both UNT and TWU. Students graduating from the federation program will receive the degree from the university through which they entered the program.

Program Faculty

The doctoral program is staffed by faculty from both the University of North Texas and Texas Woman's University. The following faculty members from each university participate in the program:

- *University of North Texas:* Lyndal Bullock, Kevin Callahan, Bertina Combes, Joyce Rademacher, Michael Saylor and Tandra Tyler-Wood.
- *Texas Woman's University:* Beth Ferri, Ronald Fritsch, Jane Irons, Charlotte Keefe, Lloyd Kinnison and Barbara Learner.

The policies of the doctoral program are guided by committees made up of faculty from both of the participating institutions. The policies are consistent with the policies of both participating universities.

Faculty Research Interests

Faculty of the two participating universities pursue a variety of research topics. The faculty in special education at UNT actively pursues a broad range of research interests. These include leadership personnel needs in special education, implications of school reform/refinement for delivery of services to students with special needs, implications of social policy on decision making for special populations, links between training and research in leadership preparation,

applications of technology in special education (both for personnel preparation and student evaluation), gifted and talented education, and educational assessment/evaluation of students with special needs.

Other research topics are construction of assessment/evaluation instruments, teacher ratings of student behaviors, management/instructional systems for students with learning and/or behavioral problems, competencies needed by teachers of special populations, predictors of student success in school, cognitive development in children, parental involvement/cooperation relationships in student educational decision making, management strategies for students with aggressive and violent behaviors, educational decision making in juvenile correction facilities, ecological assessment, acceleration of gifted students and identification frameworks for students with special needs (including gifted/talented).

The UNT faculty also conducts research in evaluation of programs for students with special needs, creativity in children and youth, strategies for conducting applied research with special populations, learning/management strategies relevant to serving culturally and linguistically diverse children with special needs in both urban and rural areas, application and outcomes of various consultation models with teachers serving students with special needs, and prevention/interventions for at-risk populations.

Research interests of TWU faculty include adolescent aggression; adolescent suicide among the gifted; the development of personality type in children and the application of type concepts in education; identification/assessment of individuals with disabilities; intervention strategies for use with emotionally disturbed students; programs and facilities for mentally retarded and emotionally disturbed people; and definition of gifted, talented and creative.

Other research interests of the TWU faculty are Attention Deficit Hyperactivity Disorder in adults; the operational definition of psychological processing abilities in learning disabilities definitions; methods and materials for handicapped learners; learning disabilities in children, adolescents and adults; behavioral characteristics and educational intervention strategies for high-risk infants and young children; the effects of physical and/or health problems on academic, social and emotional development; and educational programming for individuals diagnosed with developmental disabilities, health problems and neurological impairments.

Admission Requirements

Admission to the doctoral program in special education takes into consideration several critical factors deemed important for success in graduate studies. No single factor determines an individual's eligibility for admission.

Admission to the federation doctoral program in special education is a two-step process. Each applicant first must apply to and meet the general admission requirements of either the Graduate School at TWU or the Toulouse School of Graduate Studies at UNT. The student should apply to the school that best meets their individual research and career interests.

Applications for students who meet initial admission standards are forwarded to the Special Education Federation Admissions Committee for review. Initial acceptance into the federation doctoral program is contingent upon the successful holistic review of these materials:

1. Master's degree from an accredited institution of higher learning. Applicants who do not have the appropriate academic and experiential backgrounds in special education are required to complete a minimum of 9–12 semester hours of course work in special education as a prerequisite to doctoral studies.
2. Master's degree grade point average (GPA) of 3.0 or higher (on a 4.0 scale).
3. Three years of successful teaching experience with the appropriate populations or related acceptable experience or special arrangements.
4. Submission of GRE scores: verbal, quantitative and analytical writing. The special education program generally views strong GRE scores as a positive indicator of potential success in any robust graduate program; however, low GRE scores need not exclude a candidate who shows positive indicators in other areas.
5. Submission of additional program-specific admission materials which include (a) a letter of intent to pursue doctoral studies; (b) a professional position statement of 1,000 words or less; (c) a professional resume that delineates the applicant's previous work, educational experiences, membership and involvement in professional organizations, or scholarly activities; and (d) three letters of recommendation from persons who can attest to the applicant's ability to do advanced graduate work. After an analysis of the aforementioned materials by the review committee, whenever possible, a personal interview is arranged.
6. A written doctoral admissions examination is required within the first 12 semester hours of course work.
7. Approval of the Special Education Federation Admissions Committee.

Degree Requirements

Students are required to have a master's degree in special education or an appropriate related field to enter the program. Students not meeting this requirement or who are deficient in specific areas will be required to take additional courses. Students are not admitted to the doctoral program until the master's degree and deficiency requirements are met.

A minimum of 60 hours beyond the master's is required, plus satisfaction of the tool subject requirement. Based upon a review of the preparation of each entering student, additional deficiency courses may be required. The following specific degree requirements must be completed. A list of UNT and TWU early childhood education course descriptions follows after the program description materials.

1. Each student must complete a 12-credit-hour core. The student must complete the following courses.

- EDSP 6290, Special Education and Public Policy (3 hours) (UNT)
- EDSP 6440, Research Issues in Special Education (3 hours) (UNT)
- EDUC 6103, Social, Psychological and Educational Aspects of Mental Retardation and Developmental Disabilities (3 hours) (TWU)
- An approved EDUC course from TWU (3 hours) (TWU)

In addition to the above 12 hours, students must complete a sequence of courses at their respective degree-granting institutions. The following courses apply to each institution.

UNT

- EDSP 6030, Practicum, Field Problem or Internship
- EDSP 6270, Analysis of Trends, Issues and Research in Special Education
- EDSP 6280, Program Analysis in Special Education
- EDSP 6300, Program Development for Providing Quality Services to Children and Youth with Emotional and Behavioral Disorders
- EDSP 6310, Current Research and Best Practices in the Education and Treatment of Children/Youth with Emotional and Behavioral Disorders
- EDSP 6320, Computing Applications for Special Populations
- EDSP 6410, Theoretical Issues in Learning Disabilities
- EDSP 6900, Special Problems

TWU

- EDUC 6023, Practicum in Assessment and Evaluation of Individuals with Disabilities
- EDUC 6333, Seminar in Emotional and Behavioral Disorders
- EDUC 6403, Seminar in Learning Disabilities
- EDUC 6423, Seminar in Policies and Procedures of Special Education Administration
- EDUC 6723, Practicum
- EDUC 6903, Special Topics

2. **Minor area requirements.** Each student must complete a minor area. This minor area consists of 12 to 18 semester credit hours. In fulfillment of this requirement, students will select the most appropriate courses from the offerings of both participating universities with the advisement of the minor area professor.

3. **Additional degree requirements.** Additional requirements to complete the degree may be imposed by the Special Education Federation Admissions Committee. All entering students at UNT must complete 9 semester hours of introductory research and statistics and 9 additional credit hours in either advanced research and statistics or computer education.

4. Each student must complete a research tool subject that will enhance the completion of the dissertation research. In most cases the research tool subject will consist of research methods or computer-related courses. Students enrolling through UNT are required to take 9 semester credit hours of computer education to fulfill this requirement.

5. The student must complete successfully the written and oral qualifying examination prepared by the Special Education Federation Qualifying Examination Committee.

6. The student must successfully develop a dissertation proposal, defend the proposal, and successfully complete and defend the proposed research. The research project should add substantive confirmation or understanding of the principles, theories and practices of special education. Both quantitative and qualitative research projects are acceptable.

Doctoral Committee

Each student's program will be guided by a doctoral committee. While the committee will be composed primarily of faculty from the degree-granting institution, at least one committee member will be from the alternate participating school. The chair of the committee will be a faculty member from the university through which the student will receive the degree. The committee actively participates in (a) developing the student's degree plan, (b) evaluating the written and oral qualifying exams, and (c) evaluating the dissertation proposal and final defense.

Further Information

Additional information is available on the program web site (www.edsp.unt.edu).

Alternative Teacher Certification

See the College of Education section of this catalog for information about UNT's Alternative Teacher Certification option in special education.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.



College of Engineering

Dean's Office
 UNT Research Park, H140
 P.O. Box 310440
 Denton, TX 76203-0440
 (940) 565-4300

Main Campus Office (Advising)
 Hickory Hall, 120
 (940) 565-4201

Web site: www.eng.unt.edu

Oscar N. Garcia, Dean

Reza Mirshams, Associate Dean
 Kathy Swigger, Associate Dean

Programs of Study

The College of Engineering, through its disciplines of science, engineering and technology, offers course work leading to the following degrees:

- Master of Science and
- Doctor of Philosophy, both with a major in computer science;
- Master of Science with a major in computer engineering;
- Master of Science with a major in electrical engineering;
- Master of Science with a major in engineering technology;
- Master of Science, and
- Doctor of Philosophy, both with a major in materials science and engineering.

The Master of Science with a major in electrical engineering has been approved by the Texas Higher Education Coordinating Board with a 2007 starting date. Contact the Department of Electrical Engineering for specific program details. Call (940) 891-6872 for information.

Master's degrees are offered by all academic departments in the college.

Doctoral programs in the college typically reflect the areas of academic specialization or focus of the various departments (see individual departmental descriptions in this catalog for specific information). All areas offer challenging programs

that provide students with the opportunity to become experts in their chosen fields. A major emphasis in the college is to train graduate students in the fundamentals of engineering and scientific research and to prepare them, especially on the doctoral level, to be critical thinkers who can advance human knowledge through research.

The college is composed of the following four academic departments.

- Computer Science and Engineering
- Electrical Engineering
- Engineering Technology
- Materials Science and Engineering

Research

Research interests in the Department of Computer Science and Engineering include theoretical computer science, databases, visualization, game programming, wired and wireless networks, computer security, artificial intelligence, natural language processing, computer systems architecture, agent-based systems, collaborative learning, parallel and distributed processing, and numerical analysis.

The research areas in the Department of Electrical Engineering include signal processing, wireless communication, channel modeling and measurement, radar systems, VLSI design and testing, analog and mixed-signal IC design, nano-scale semiconductor device modeling and design, wireless sensor network design, radio-frequency identification (RFID) systems, sensor and sensor interface design, coding theory, bioinformatics, artificial intelligence, pattern recognition and multisensor fusion.

Research capabilities in the Department of Engineering Technology include small target visibility, noise cancellation, VLSI design of antenna array, logic circuit design, applications of technology to education, biomedical optics, pulse oximetry, telemedicine, liquid nitrogen automobiles, mechanical behavior of materials for structures and micromechanical systems, control systems, field emissions and corrosion engineering.

Research programs in the Department of Materials Science and Engineering emphasize hands-on research with modern equipment and facilities. Areas of research include polymers, nanocomposites, electronic materials and molecular electronics.

Advising

For general information, contact the Toulouse School of Graduate Studies. For specific requirements for graduate degrees, contact the appropriate department chair or graduate adviser.

Department of Computer Science and Engineering

Main Departmental Office
UNT Research Park, F201

P.O. Box 311366
Denton, TX 76203-1366
(940) 565-2767

Web site: www.cse.unt.edu

Krishna M. Kavi, Chair

Graduate Faculty: Akl, Barrett, Brazile, Dantu, Deng, Escobar-Molano, Garcia, Huang, Irby, Jacob, Kavi, Mihalcea, Mikler, Mohanty, Parberry, Renka, Shahrokhi, Sweany, Swigger, Tarau, Tate.

The Department of Computer Science and Engineering offers graduate programs leading to the following degrees:

- Master of Science with a major in computer engineering;
- Master of Science, and
- Doctor of Philosophy, both with a major in computer science.

Information regarding these degree programs, including admission requirements and degree requirements, can be obtained from the department's web site.

The objective of the master's degree is to produce professional computer scientists capable of contributing technically to the basic core areas of computer science and computer engineering as well as to application areas. The objective of the doctoral degree is to produce professionals capable of conducting and directing research within the discipline of computer science.

The department is committed to overall excellence in graduate education. Consequently, the programs of study for these degrees include a mixture of course, laboratory and research work designed to place graduates at the forefront of technical excellence.

The department also supports an interdisciplinary doctorate with a major in information science. See the School of Library and Information Sciences section of this catalog for more information.

Research

The Department of Computer Science and Engineering has a comprehensive research program. Current faculty research interests include artificial intelligence, data and knowledge bases, computer

systems architecture, computer graphics and visualization, logic programming, mathematical software, wired and wireless networking, computer security, neural computing, operating systems, parallel and distributed computing, scientific computing, pattern recognition and robotics, programming languages, natural language processing, theory of algorithms and VLSI.

The **Network Security Laboratory** was established to increase general wireline and wireless security awareness of computer science and engineering graduates, to produce skilled security specialists, and to conduct research and development activities to advance the state-of-the-art in wireline and wireless security and communication.

The **Computer Privacy and Security Laboratory** (CoPS) conducts research on improving privacy and security of computer systems.

The **Computer Systems Research Laboratory** investigates multithreaded architectures, compiler optimizations, memory systems, intelligent memory devices and real-time and embedded processing. The resources available to this research include Compaq (DEC) Alpha Servers, Sun Workstations, a four-node SUN SMP server, a tera-byte storage system and several PC based Linux and Window systems.

Intelligent Distributed Software Systems provides the software and hardware infrastructure for research and graduate teaching in new and exciting areas such as intelligent mobile agents, distributed artificial intelligence and Internet programming.

The **Laboratory for Recreational Computing** (LARC) serves as a center for research, education and development in the field of computer game programming.

The **Geometric Computing Laboratory** conducts research to improve the effectiveness and efficiency of geometric algorithms.

The **Language and Information Technologies Laboratory** researches various aspects of natural language processing and computational linguistics, including text understanding, machine translation, information retrieval and speech technologies.

The **Network Research Laboratory** conducts research in high-speed networking techniques and applications.

The **VLSI Design and CAD Laboratory** (VDCL) carries out research in low power design and CAD for nano-scale VLSI circuits.

The **Computational Epidemiology Research Laboratory** (CERL) applies computational science paradigms to the domain of public health, thereby providing tools for epidemiologists and public health researchers.

Wireless Sensor Laboratory (WiSL) was established with the following mission: to increase general wireless communications awareness among computer science and

engineering graduates, produce skilled wireless specialists, and conduct research and development activities to advance the state-of-the-art in wireless sensors.

Faculty research has been supported through grants from federal and state institutions and private industry including the National Science Foundation, Texas Department of Transportation, Texas Higher Education Coordinating Board, Oak Ridge National Laboratory, Google and Microsoft. The department enjoys a friendly working relationship with local and national companies. The department's Advisory Council is composed of representatives from government agencies and high-tech firms. During the past few years they have helped obtain research funding, fellowships and internships for students in the department.

Degree Programs

The department offers graduate programs leading to the following degrees:

- Master of Science with a major in computer engineering;
- Master of Science, and
- Doctor of Philosophy, both with a major in computer science.

Information regarding these degree programs, including admission requirements and degree requirements, can be obtained from the department's web site.

Admission to graduate degree programs in computer science and computer engineering is competitive. Applications, complete with transcripts, GRE scores (UNT computer science and engineering graduates are exempt.) and TOEFL scores, must reach the computer science and engineering department by the following dates to be considered for the term/semester indicated.

October 1 — spring term/semester

March 1 — summer term

March 1 — fall term/semester

Note that fall applications must be received by March 1 in order to be considered for an assistantship. Students must submit a completed application for assistantship by the above deadline to be considered for financial assistance. Applications are available on the department's web site.

Computer Engineering Program Master of Science

The department offers the Master of Science with a major in computer engineering.

Program Objectives

1. Graduates will exhibit skills needed to pursue doctoral-level work as well as research careers in industry and academia.

2. Graduates will possess a strong background in the breadth of computer engineering, as evidenced by a good balance between software and hardware skills, including software development, design of digital systems, microprocessors, embedded systems, real-time systems and digital communication networks.
3. Graduates will demonstrate a strong, in-depth knowledge in one of the department's specialty areas: VLSI, real-time systems, computer systems and communication networks.
4. Graduates will exhibit excellent communication skills, both oral and written, that will assist them in achieving their career goals.
5. Graduates will be highly recruited in a competitive market and make valuable contributions to a wide variety of industries, particularly in computer and information technology.
6. Graduates will pursue life-long learning and continued professional development.
7. Graduates will demonstrate high levels of professional responsibility and ethical behavior.
8. Graduates will undertake leadership roles in their profession, in their communities and in the global society.

Admission Requirements

Admission requirements for the MS with a major in computer engineering will be the same as the requirements for the MS with a major in computer science (see below).

Admission to Candidacy

After removal of all deficiencies and upon completion of all the leveling courses (as described below), the student is required to submit a formal degree plan to his or her adviser and the Dean of the School of Graduate Studies. Failure to fulfill this requirement may prevent the student from enrolling the following term/semester. Admission to candidacy is granted by the Dean of the School of Graduate Studies after the degree plan has been approved.

Leveling Courses

- Mathematics through multivariable calculus
- Physics including mechanics, electricity and magnetism
- CSCE 2050, Computer Science III
- CSCE 3600, Principles of Systems Programming
- CSCE 3610, Machine Structures
- CSCE 3730, Reconfigurable Logic
- ELET 3720, Electronics I

All entering students must demonstrate knowledge of the material covered in these courses. An entering student may demonstrate knowledge of the material by:

- Completing the courses at UNT

- Completing similar courses at another institution
- Evidence based on employment experience

A student may be required to successfully pass a placement exam to demonstrate their knowledge of the material.

Degree Requirements

Option A: Thesis Option (25 hours of organized course work which includes CSCE 5020 plus 6 hours of thesis). Leveling courses cannot be counted towards these 25 hours.

Option B: Course Option (37 hours of organized course work which includes CSCE 5020 and may include 3 hours of project). Leveling courses cannot be counted towards these 37 hours.

Course Selection

- Leveling course(s) are required if applicant does not have a BS with a major in computer engineering.
- Select one core course from three out of the four specialty areas.
- Select at least three courses from one area; at least one of these should be a 6000-level course.
- No more than 3 hours in non-organized class (such as individual study).
- As an introduction to the department, and to research and computer engineering in general, every master's-level student must take the CSCE 5020, Current Research in Computer Science and Engineering, during the first long term/semester enrolled in graduate classes. One hour of credit is obtained from this course.
- The project requires enrollment in CSCE 5900, which requires a poster presentation of the project work at an open department reception. A final project report that must be submitted to the graduate coordinator at least two weeks before the end of the student's final term/semester.

Course Requirements

Area 1: VLSI

- CSCE 5730, Digital CMOS VLSI Design (core course)
- CSCE 5750, VLSI Testing
- CSCE 5760, Design for Fault Tolerance
- CSCE 6610, Advanced Computer Architecture
- CSCE 6651, Advanced VLSI Systems

Area 2: Communication and Networks

- CSCE 5510, Wireless Communications (core course)
- CSCE 5520, Wireless Networks and Protocols
- CSCE 5530, Computer Network Design
- CSCE 5570, Digital Communications
- CSCE 5580, Computer Networks (core course)
- CSCE 6581, Advanced Computer Networks
- CSCE 6590, Advanced Topics in Wireless Communications and Networks

Area 3: Real-Time Systems

- CSCE 5440, Real-Time Software Development
- CSCE 5620, Real-Time Operating Systems
- CSCE 5640, Operating System Design (core course)
- CSCE 6620, Advanced Real-Time Operating Systems
- ELET 5310, Industrial Process Controls
- ELET 5330, Instrumentation System Design

Area 4: Computer Systems

- CSCE 5160, Parallel Processing and Algorithms
- CSCE 5450, Programming Languages
- CSCE 5610, Computer System Architecture (core course)
- CSCE 5640, Operating System Design
- CSCE 5650, Compiler Design
- CSCE 6450, Advanced Programming Languages
- CSCE 6610, Advanced Computer Architecture
- CSCE 6640, Advanced Operating Systems
- CSCE 6650, Advanced Compiler Techniques

General Courses

- CSCE 5900-5910, Special Problems
- CSCE 5932, Internship
- CSCE 5934, Directed Study
- CSCE 5950, Master's Thesis

Computer Science Programs**Master of Science**

The department offers the Master of Science with a major in computer science.

Admission Requirements

The student must satisfy all the general admission requirements of the Toulouse School of Graduate Studies as well as the following admission requirements of the computer science and engineering department:

1. an acceptable score on the Graduate Record Examination (GRE); contact the department or the Toulouse School of Graduate Studies for information concerning acceptable admission test scores;
2. for applicants whose native language is not English, a TOEFL score of at least 580 for the written test or 237 for the computer test also is required;
3. a GPA of at least 3.0 on the most recent 60 hours of course work;
4. completion of a sufficient amount of prior work in the field of computer science, including courses equivalent to CSCE 2610, 3110, and 3600; some undergraduate leveling sequences are available; and
5. at least 15 hours of mathematics, including differential and integral calculus, discrete mathematics and two other courses selected from statistics, linear algebra, abstract algebra, logic, numerical analysis and differential equations.

An overall evaluation of the student's credentials is used as a basis for admission. Students with an insufficient computer science background may be provisionally admitted to the program and may enroll in graduate-level courses once any required leveling courses are completed with a grade of B or better. Admission is competitive, and satisfaction of the minimum requirements does not guarantee admission.

Admission to Candidacy

After removal of all deficiencies and upon completion of an additional 12 hours of graduate credit, the student is required to submit a formal degree plan to his or her adviser and the dean of the School of Graduate Studies. Failure to fulfill this requirement may prevent the student from enrolling the following term/semester.

Admission to candidacy is granted by the dean of the School of Graduate Studies after the degree plan has been approved.

Degree Requirements

The computer science and engineering department offers two master's degree options:

Option A: Thesis Option (25 hours of organized course work which includes CSCE 5020 plus 6 hours of thesis).

Leveling courses cannot be counted toward the 25 hours.

Option B: Course Option (37 hours of organized course work which includes CSCE 5020 and may include 3 hours of project/6 hours of Problem in Lieu of Thesis). Leveling courses cannot be counted toward the 37 hours.

Course Selection

As an introduction to the department and to research in computer science and engineering, all master's students must take CSCE 5020, Current Research in Computer Science and Engineering, during the first semester they are enrolled in graduate classes.

The Master of Science with a major in computer science includes 9 hours of the following required courses:

- CSCE 5150, Analysis of Computer Algorithms
- CSCE 5450, Programming Languages
- CSCE 5640, Operating System Design

For Option A, the remaining courses are selected in consultation with the student's thesis adviser.

For Option B, the remaining courses are selected in consultation with the graduate coordinator.

Minor

From 6 to 12 hours of graduate work in a minor field of computer science application are required. With prior approval of the graduate coordinator, this

work may be done outside the computer science and engineering department.

Academic Standards

If a student's GPA on all graduate and/or deficiency courses falls below 3.0, the student will be placed on probation the following term/semester. Students who cannot raise their GPA above 3.0 during that term/semester will be dropped from the program.

Graduate Minor in Computer Science

A graduate minor in computer science requires 9 to 12 hours of graduate credit. CSCE 5011-5013 are service courses designed for students who are not computer science majors. Since these are introductory courses, only one of these courses is allowed in the 9-hour minor option, and no more than two of these courses may be included in the 12-hour minor option.

Doctor of Philosophy

The program of study for the doctoral degree with a major in computer science includes formal course work, independent study and research. The purpose of the degree is to produce a professional capable of directing and conducting research within the discipline of computer science.

Admission Requirements

Students seeking admission to the doctoral program must meet all general requirements for doctoral candidates at UNT and must have completed all of the requirements (or equivalent work) for the master's degree as defined in the previous section. Additional requirements are delineated below:

1. an acceptable score on the Graduate Record Examination (GRE); contact the department or the Toulouse School of Graduate Studies for information concerning acceptable admission test scores;
2. a 3.5 GPA on the most recent 30 hours of course work;
3. for applicants whose native language is not English, a TOEFL score of at least 580 for the written test or 237 for the computer test is required; and
4. three letters of recommendation.

An overall evaluation of the student's credentials is used as a basis for admission. Admission is competitive, and satisfaction of the minimum requirements does not guarantee admission.

Degree Requirements

In addition to satisfying the general requirements for all UNT doctoral degrees, a student must satisfactorily complete the following:

1. a minimum of 12 hours of 6000-level organized courses in computer science;

2. the residence requirement, consisting of two consecutive terms/semesters of enrollment in at least 9 semester hours;

3. satisfactory completion of a written comprehensive examination prior to submitting a proposal for dissertation research; and

4. submission and successful defense of the doctoral dissertation.

More detailed information on degree requirements is available upon request from the Department of Computer Science and Engineering.

Language or Tool-Subject Requirements

Consult the graduate adviser, Department of Computer Science and Engineering, for requirements.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Electrical Engineering

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Murali Varanasi, Chair

Graduate Faculty: Deng, Fu, Garcia, Guturu, Li, Varanasi, Yang.

Introduction

The Department of Electrical Engineering at the University of North Texas commits to achieving excellence in research and graduate education in all major electrical engineering areas. Our primary goals include: (1) to provide high quality innovative educational programs at the undergraduate and graduate levels to foster learning, ethical standards, and leadership

qualities; (2) to pursue excellence in scholarly research at the frontiers of electrical engineering; and (3) to facilitate access through our faculty expertise and our modern facilities to serve the industry, the profession, and other constituents in North Texas, the state and the nation.

Research

Research areas within the department include the following.

RF and sensing areas: Research in this area focuses on the general topics related to advanced RF sensing systems over a wide range of frequencies. The RF sensing systems include radio-frequency identification (RFID) systems, radar systems, remote sensing systems, medical imaging systems, underground penetrating systems and wireless sensing networking systems.

Computer-Aided Design (CAD) and VLSI: The research interests in this area include innovative algorithms for VLSI testing, low-power VLSI design, innovative ASIC and computer architecture, nano-scale logic device modeling, design and simulation, VLSI interconnect modeling and simulation, and VLSI physical design.

Intelligent signal processing: Research in this area is dedicated to the design and development of advanced signal processing algorithms and systems for industrial, space electronic systems and defense technology. The specific research areas include signal detection and estimation, space-time signal processing, signal design and diversity for sensor systems, information fusion from various sensor sources, infrared and microwave imaging, robust signal processing, pattern recognition, and target identification.

Wireless systems: The research interests in this area focus on system-level issues that are critical for the design of high-performance wireless networks and sensor networks. Research topics include measurement and modeling of wireless channels, experimental and theoretical system performance study, integrated communications and positioning, real-time signal processing, and optimum network deployment.

Industrial Tomography: Industrial tomography provides an innovative and powerful tool for measurement and control by generating cross-sectional images of industrial processes. The research in this area focuses on tomographic sensor design, finite element simulation, sensing and signal conditioning circuits, data acquisition, computer interface, data processing, image reconstruction algorithms, image processing and display, and applications in the oil and gas, pharmaceutical, food, chemical engineering, power and nuclear industries, as well as homeland security.

Other research areas in the department include: innovative wireless imaging systems, analog and mixed-signal IC design, semiconductor device modeling and design, wireless sensor network design, sensor

and sensor interface design, bioinformatics, artificial intelligence, speech-driven animation, and cognitively based learning-to-learn education.

Degree Program

The department offers a graduate program leading to the following degree:

- Master of Science with a major in electrical engineering.

Master of Science

Program Objectives

1. Graduates will achieve master's-level proficiency in electrical engineering subjects that include digital integrated circuit design, analog design, adaptive and statistical signal processing, coding theory, control system design, and computer vision and image analysis.
2. Graduates will attain a broad background in electrical engineering that provides them with a number of choices for future specialization, if needed.
3. Graduates will attain proficiency in both oral and written communication that is needed for achieving success in their future careers.
4. Graduates will learn how to learn and thereby attain the ability to pursue life-long learning and continued professional development.
5. Graduates will have experience in project-based learning and hence will be ready to engage in high-tech careers upon their graduation.

Admission Requirements

The student must satisfy all the general admission requirements of the Toulouse School of Graduate Studies as well as the admission requirements of the electrical engineering department as outlined below:

1. An acceptable score on the Graduate Record Examination (GRE); contact the department or the Toulouse School of Graduate Studies for information concerning acceptable admission test scores.
2. For applicants whose native language is not English, a TOEFL score of at least 580 for the written test or 237 on the computer-based test is required.
3. A GPA of at least 3.0 on the last 60 hours of undergraduate course work.
4. Completion of a sufficient amount of prior course work in the field of electrical engineering, including courses equivalent to EENG 3520, EENG 3710 and EENG 3810.
5. At least 15 hours of mathematics, including differential and integral calculus, probability, linear algebra and differential equations.

Students not satisfying conditions 1 through 3 will not be admitted to the electrical engineering program, nor will they be allowed to enroll in graduate

electrical engineering courses. Those students who satisfy conditions 1 through 3 but who lack some of the electrical engineering background may be provisionally admitted to the program.

Admission to Candidacy

After removal of all deficiencies and upon completion of all the leveling courses (as described below), the student is required to submit a formal degree plan to his or her adviser and the dean of the School of Graduate Studies. Failure to fulfill these requirements may prevent a student from enrolling the following term/semester. Admission to candidacy is granted by the Dean of Graduate Studies after the degree plan has been approved.

Leveling Courses

- Mathematics through multivariable calculus
- Physics including mechanics, electricity and magnetism
- EENG 2620, Signals and Systems
- EENG 2710, Digital Logic Design
- EENG 3520, Electronics II
- EENG 3810, Communications Systems

All entering students must demonstrate knowledge of the material covered in these courses. An entering student may demonstrate the knowledge by:

- Completing the courses at UNT
- Completing similar courses at another recognized institution
- Evidence based on employment experience.

A student may be required to pass a placement examination to demonstrate his or her knowledge.

Degree Requirements

Option A: Thesis option with 24 semester hours of organized course work excluding undergraduate prerequisites and leveling courses, in addition to 6 hours of EENG 5950, Master's Thesis.

Option B: Non Thesis option with 30 semester hours of organized course work and 3 semester hours of EENG 5890, Directed Study.

Course Selection

- At least 12 hours of graduate electrical engineering courses.
- No more than 6 semester hours of special problems or directed study courses.
- Leveling courses: Students whose undergraduate majors were not electrical engineering must take additional leveling courses that will be determined by the EE graduate adviser on an individual basis.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Engineering Technology

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Albert Bill Grubbs Jr., Chair

Graduate Faculty: Foster, Grubbs, Kougianos, Kozak, McNeill, Mirshams, Nasrazadani, Plummer, Vaidyanathan, Wang, Yu.

The department serves two basic roles. In the broader sense, it provides exposure to technology for general understanding and interpretation of industry founded in theory and practice. In a more practical sense, the department provides technology-based education that results in professional careers in industry. Career opportunities for graduates are in industry/business.

Research

The research interests of the Department of Engineering Technology are focused on technological systems and processes with specific industrial applications. This research represents the university's desire to effect the transfer of theoretical knowledge from the laboratory to the industrial sector (technology transfer).

Specific interests in mechanical engineering include product design and development, quality assurance, composite materials, materials testing, production planning and management, manufacturing processes, computer-aided design (CAD), computer-aided manufacturing (CAM), computer numerical control (CNC), part programming, electromechanical design, robotics, liquid nitrogen automobile, nano-indentation, field emissions, corrosion and nano crystalline materials, and

computer-integrated manufacturing (CIM). The principal research interests in electronics include hardware/software interfacing, data acquisition and analysis, computer-aided software engineering (CASE), local area networks (LANs), digital signal processing, real-time control systems, distributed control systems, RF communication systems, biomedical optics, pulse oximetry, telemedicine, VLSI design of antenna array, SCADA systems, logic circuit design, applications of technology to education and solar energy research. Also of interest are international projects involving the transfer of electronics technology to the academic and industrial sectors.

Support for research projects in the department has come from the National Science Foundation; American Society for Heating, Refrigeration and Air-conditioning Engineers; American Cancer Society; Cadence Design Systems Inc.; Texas Instruments Inc.; American Society for Engineering Education; Texas Department of Transportation; TU Electric; Electrical Generation Technology; Associated General Contractors of America; Society of Manufacturing Engineers and the U.S. Air Force. Industrial support of graduate student thesis research has been provided by MEMC Southwest, Aerospace Optics, TXU, Manamatsu Photonics, Bell Helicopter-TEXtron, Texas Instruments, Halsey Engineering and Manufacturing, Molex Inc., Verizon, AT&T, Motorola, Montgomery KONE and Bateman Engineering.

Degree Program

The department offers a graduate program leading to the following degree:

- Master of Science with a major in engineering technology.

Admission Requirements

Admission to graduate study at UNT is described in the Admission section at the front of this catalog.

Applicants should hold an undergraduate degree in a technical field of study. Applicants not meeting this qualification may be admitted with a provision for removal of undergraduate deficiencies. In addition, applicants must meet departmental requirements for the Graduate Record Examination scores. Contact the department or the Toulouse School of Graduate Studies for information concerning acceptable admission test scores.

Master of Science Degree Program

The program of study for the Master of Science with a major in engineering technology is a comprehensive program, yet provides for a degree of specialization with the proper selection of courses in the major. Two options are available.

Option 1, Master of Science, Thesis

The graduate credit requirement for the MS degree is 30 semester hours chosen in one of the following specializations. A formal proposal and an oral defense of the thesis are required of all degree candidates.

Specialization in mechanical engineering technology:

1. Required courses: MSET 5000, 5040, 5950; MEET 5030, 5100, 5120 and 5130.
2. Electives: 8 semester hours selected in consultation with a department graduate adviser.

Specialization in electronics engineering technology:

1. Required courses: MSET 5000 and 5950, and ELET 5300, 5310, 5320, 5330 and 5340.
2. Electives: 8 semester hours selected in consultation with a department graduate adviser.

Option 2, Master of Science, Non-Thesis

The graduate credit requirement for the MS degree is 36 semester hours chosen in one of the following specializations. A project and/or examination is required of all degree candidates for the non-thesis option.

MSET 5000 is required of all students.

Specialization in mechanical engineering technology:

1. Required course: MSET 5040; MEET 5030, 5100, 5120 and 5130.
2. Electives: 20 semester hours selected in consultation with a department graduate adviser.

Specialization in electronics engineering technology:

1. Required courses: ELET 5300, 5310, 5320, 5330 and 5340.
2. Electives: 20 semester hours selected in consultation with a department graduate adviser.

Degree Plan

For advice regarding the procedure for obtaining a degree plan, which is to be submitted prior to the completion of 6 semester hours, see a graduate adviser in the departmental office, UNT Research Park, Room F115.

Financial Support

The department has scholarships and research/teaching assistantships available for full-time graduate students. For additional information, make inquiries to a department graduate adviser.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The “Course and Subject Guide,” found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Materials Science and Engineering

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Michael Kaufman, Chair

Graduate Faculty: Banerjee, Brostow, D’Souza, El-Bouanani, Gorman, Kaufman, Reidy, Scharf, Shepherd.

The Department of Materials Science and Engineering addresses the educational and technological challenges of creating, applying and characterizing new materials for manufacturing products for the 21st century. The department is committed to training students at the graduate level in all aspects of modern materials including metals, ceramics, polymers, electronic and optical materials, and materials characterization. Students have opportunities for hands-on research with modern equipment and facilities. The department has strong collaborative programs with other universities in the Dallas–Fort Worth region and with corporations throughout the world. Students have many opportunities to develop highly marketable skills for high-technology companies in electronics, chemical, electric power, automotive, aviation, biomedical and environmental industries, as well as academia.

Financial Support

Teaching assistantships funded by the department and research assistantships funded by individual faculty research grants support the majority of students. Out-of-state and international students who are funded at least half-time are eligible for in-state tuition rates. Contact the chair of the Department of Materials Science and Engineering regarding

assistantships. Contact Student Financial Aid and Scholarships for student loan information.

Research

The **Electron Microscopy Laboratory** houses the new FEI TF20ST analytical high-resolution transmission electron microscope and the FEI Nova 200 Nanolab dual-beam scanning electron microscope/focused ion beam instrument. Recent acquisitions include a 3-D local electrode atom probe tomography system, an environmental scanning electron microscope and a high resolution X-ray diffraction system, an atomic force microscope, and a UV-VIS ellipsometer. Full optical microscopy, sample preparation, and electron microscopy computer simulation facilities are available. The multi-disciplinary, multi-user laboratory emphasizes the production and characterization of nanoscale materials and devices and the transfer of technology to industry.

The **Laboratory of Advanced Polymers and Optimized Materials (LAPOM)** focuses on the development of materials with improved mechanical, tribological and thermo-physical properties, including thermoplastics, thermosets, composites, nanohybrids and coatings. High strength, wide service temperature range, low thermal expansivity, low static and dynamic surface friction, high adhesion of coatings to ceramic and metal substrates, high scratch, wear and mar resistance.

The analytical characterization facilities include a new 200kV Tecnai G20 analytical high-resolution transmission electron microscope with EDS, PEELS, energy filter and HAADF; a new dual beam Nova 200 focused ionbeam/field emission SEM; a Phillips 420 TEM with EDS; a JEOL 5800 scanning electron microscope (SEM) with EDS; a JEOL T-300 SEM; and a Scintag e-ray diffractometer.

The **Polymer Mechanical and Rheological Laboratory** is engaged in investigations of interrelationships between morphology and mechanical properties through the influences of time and temperature of polymers, composites and hybrid organic-inorganic nanocomposites. A Mechanical Testing System (MTS810) equipped with an environmental chamber (-150° to 600° C), video and thermal wave imaging provide stress pattern-temperature relationships around propagating cracks and estimate residual stresses. A Torsional Rheometer provides visuelastic and rheological property evaluation. Reliability of dielectric property retention is being examined through simultaneous effects of radiation and electrical fields using thermally stimulated depolarization currents and thermoluminescence.

The **Materials Synthesis and Processing Laboratory** has research interests focused on the development of aerogels and other novel ceramics for dielectric, sensor and high temperature applications. A complete

synthesis laboratory is available with several spin coaters for thin film development and with a BET surface area/pore size analyzer for structural characterization as well as high temperature furnaces and a critical point dryer.

The **Display Materials Laboratory** works on field emission displays based on field emission and cathodoluminescence. Display performance is currently restricted by several materials-related limitations. We are investigating these materials-related issues, including low work function materials, thin-film getters and novel spacer materials. We are also studying the reliability of organic light emitting materials and low permeability plastic substrates for flexible displays.

The **Laboratory for Electronic Materials and Devices** is a cross-disciplinary laboratory performing basic and applied research on novel materials for advanced electronic devices of all kinds. The laboratory includes a Group IV molecular beam epitaxy system, a 3 MV ion beam accelerator, a comprehensive surface science system and several scanning probe microscopes. The primary areas of research include advanced dielectric materials, high electric field chemical reactions and molecular electronic devices.

The **Advanced Materials Laboratory** has research focused on the structure-property-processing relationships in metallic structural materials. Current investigations are in the areas of bulk metallic glasses; nanocrystalline materials; development of better aluminum, titanium and nickel alloys for structure applications; and shape memory alloys. Emphasis is on advanced processing and characterization.

The **Energy Materials Laboratory** is focused on developing new materials for advanced energy needs. Of particular interest are processing of nanoscale fuel cells, low-K dielectrics, optoelectronics using precursors, sol-gel and colloidal processing with an emphasis on advanced characterization techniques.

Additional Research Support

Federal support of research projects in the department includes funding from the Defense Advanced Research Projects Agency, the National Science Foundation, the Naval Research Labs, the Army Research Laboratory, U.S. Air Force Office of Scientific Research, U.S. Army Soldier Systems Center and the Department of Education. Other research support has been granted by the Texas Advanced Research Program, the Texas Advanced Technology Program, the Texas Energy Research in Applications Program, Texas Instruments, the Baylor College of Dentistry, Texas Utilities Electric, Bell Helicopter-TEXtron, Ford Motor Co., Eastman Kodak, General Motors, Sematech, Semiconductor Research Corporation, LTV Corporation, Viratech Thin Films and many small high-technology companies in the Dallas-Fort Worth region. Current funding sources include Carbon

Nanotechnologies Inc., NASA, Army Soldier systems, The Naval Research Laboratory, the Army Research Office, Zyvex, Semiconductor Research Corporation, the Texas Advanced Research Program and the Texas Advanced Technology Program.

Admission Requirements

The student must apply for and be granted admission through the office of the dean of the Toulouse School of Graduate Studies; admission requirements applicable to all departments are found in the Admission section of this bulletin or at www.gradschool.unt.edu. Students may also contact the program for current admission requirements.

Admission to the graduate degree programs in materials science is competitive, as available facilities do not permit admission of all qualified applicants. Departmental forms for applying for financial aid may be obtained from the chair of the Department of Materials Science and Engineering or from the web site (www.mtsc.unt.edu/howtoapply.htm). Students currently enrolled in MS degrees (non materials science) at UNT need to reapply for admission to the department of materials science through the graduate school in order to concurrently avail of the dual degree option (see dual degrees in the Admission section of this bulletin). Candidates applying for a dual degree need not resubmit original documents. Application does not imply admission.

Applying is a two-part process. First, prospective applicants for graduate degree programs must obtain and file an application for admission to the UNT graduate school from the graduate dean's office. Second, applicants for graduate materials science degrees must send in a complete copy of the graduate school application, GRE scores, TOEFL scores (if required), original college transcripts, a curriculum vitae, statement of research interests and at least two recommendation letters. If original GRE and TOEFL scores have been sent to the graduate school, a copy of scores can be sent to the department. If financial assistance in the form of a research or teaching assistantship is being sought, this should be requested in a cover letter to the department or by filling out the online request form at www.mtsc.unt.edu/howtoapply.htm.

Admission to the MS (problems-in-lieu-of thesis), MS (thesis) and PhD programs are based on a cumulative assessment of GRE, letters of recommendation and college transcripts. For admission, students must present acceptable scores on the Graduate Record Examination (GRE). Contact the department or the Toulouse School of Graduate Studies concerning standardized admission test requirements. International applicants must also provide a minimum of 550 (paper) or 216 (computer based) on the TOEFL (Test of English as a Foreign Language) exam. Complete college transcripts and two letters of recommendation are required. Further details may be obtained from the departmental office.

Degree Programs

The Department of Materials Science and Engineering offers graduate programs leading to the following degrees:

- Master of Science with a major in materials science and engineering, and
- Doctor of Philosophy with a major in materials science and engineering.

Master's Degree Options

The applicant seeking a master's degree with a major in materials science and engineering will plan a degree program with the assistance of the student's major professor and the advisory committee. A graduate major must present credit for at least 32 semester credit hours. The student must maintain a B average in all formal materials science courses.

Option 1, Master of Science, Thesis

The graduate credit requirement for the Master of Science degree is 32 semester hours chosen in the following manner.

1. Six of the following seven materials science core courses (18 semester credit hours): MTSC 5000, 5100, 5200, 5300, 5400, 5500, 5600.
2. Six semester credit hours may be chosen from materials science or related fields, as approved by the major professor and the advisory committee.
3. Six semester credit hours of MTSC 5950 (Thesis). Work for the master's thesis is comprised of independent and original studies that may be experimental, computational, theoretical or a combination of these. As part of these requirements, the student must present a formal written report that must be approved by the major professor and the advisory committee and filed in the graduate dean's office. Reports for MTSC 5950 must be submitted in a form prescribed by one of the common refereed materials science journals, such as the manuscript form of the American Institute of Physics (see AIP style manual, current edition). See also the graduate school thesis requirements at www.gradschool.unt.edu.
4. Seminar in Materials Science and Engineering, MTSC 5700. A minimum of 2 semester credit hours. Please see "Seminar in Current Topics in Materials Science".

Option 2, Master of Science, Problems in Lieu of Thesis

The graduate credit requirement for the Master of Science degree is 35 semester hours chosen in the following manner.

1. Six of the following seven materials science core courses (18 semester credit hours): MTSC 5000, 5100, 5200, 5300, 5400, 5500, 5600.

2. Nine hours may be chosen from materials science or related fields, as approved by the major professor and the advisory committee.

3. Six semester credit hours of MTSC 5920 and 5930 (Problems in Lieu of Thesis). Research problems in lieu of thesis are independent, original studies that may be experimental, computational, theoretical or a combination of these. As part of the requirements for each problems course, the student must present a formal written report of the work done in the course, which must be approved by the major professor and the advisory committee and filed in the graduate dean's office. Reports for MTSC 5920-5930 must be submitted in a form prescribed by one of the common refereed materials science journals, for example, in the manuscript form prescribed by the American Institute of Physics (see AIP style manual, current edition). See also the graduate school problem-in-lieu-of-thesis requirements at www.gradschool.unt.edu.

4. Seminar in Materials Science and Engineering, MTSC 5700. A minimum of 2 semester credit hours.

Seminar in Current Topics in Materials Science

All MS (thesis) and PhD students are expected to attend MTSC 5700 during each term/semester of full-time graduate study. Candidates for a Master of Science (thesis) degree must present their work during the regularly scheduled departmental seminar prior to the oral examination before the graduate committee. Candidates for the Master of Science (problems in lieu of thesis) must give a seminar based on the reports written for MTSC 5920-5930 and obtain a minimum grade of B for the seminar. The thesis/problem adviser must be present for the seminar presentation.

Examinations

An entrance interview and proficiency examination concerning fundamental materials science is required of all students. The results are used for advisory, placement and remedial purposes.

An oral presentation of the master's thesis is required. A decision on acceptance of the thesis will be made by the student's advisory committee after an oral examination is successfully completed. A decision on the acceptance of a written report based on problems in lieu of thesis will be made by the student's advisory committee. Guidelines for thesis preparation are available from the department secretary. See also the graduate school requirements at www.gradschool.unt.edu.

Doctor of Philosophy

The Doctor of Philosophy degree represents the attainment of a high level of scholarship and achievement in independent research that culminates in the completion of a dissertation of original scientific

merit. Hence, it cannot be prescribed in terms of a fixed semester credit hour requirement.

Course work and research amounting to the equivalent of two academic years beyond the master's degree or three years beyond the bachelor's degree may be considered the minimum.

Generally, the degree consists of 60 semester credit hours beyond the master's degree, with 12 semester credit hours allocated for the dissertation.

It is expected that the candidate will have published at least one original research article in a refereed journal prior to graduation.

Admission to the Doctoral Program

Departmental admission to the doctoral program in materials science (as distinguished from admission to candidacy for the PhD program) requires a satisfactory score on the written and oral sections of the qualifying examination. This is normally taken after completion of the basic curriculum, after the second year. Enrollment in MTSC 6950 will not be allowed until the student has completed this requirement. Contact the Toulouse School of Graduate Studies or the program for current admission requirements, or see information posted on the graduate school web site at www.gradschool.unt.edu.

Examinations

An entrance interview and proficiency examination are required of all graduate students in materials science, as described above under the master's examinations. The following examinations apply to the Doctor of Philosophy degree.

Qualifying Examination

1. A written qualifying examination is taken after completion of the core curriculum courses over the contents of these courses. The departmental examination committee will schedule and administer the exam, usually in the summer term/semester.
2. Students have a total of two attempts to pass the written qualifying examination.
3. Students who pass the written qualifier are scheduled for the oral examination, which is to be conducted within one month of passing the written examination. The oral examination consists of a proposal by the student on how he/she would perform PhD research on a topic unrelated to their current field of research designated by the evaluation subcommittee. Students have a maximum of two attempts at the oral examination.
4. Upon passing the written and oral examination by the examination committee and major adviser, the applicant applies to the dean of the Toulouse School of Graduate Studies for admission to candidacy and may begin research.

Final Examination

This oral examination is primarily a defense of the dissertation, which must be submitted in final form to the final examination committee at least seven days prior to the scheduled oral examination. At least one final examination committee member must be from a department other than the Department of Materials Science and Engineering. Guidelines for dissertation preparation are available from the department secretary.

Course Work

For the student who has not had previous graduate study, the approximate requirements follow.

1. Seven materials science core courses: MTSC 5000, 5100, 5200, 5300, 5400, 5500 and 5600.
2. Sixty hours may be chosen from materials science or related fields, as approved by the student's major professor and the advisory committee. Individual research hours (MTSC 6940) should not exceed 30 hours.
3. Twelve semester credit hours of MTSC 6950 (Doctoral Dissertation).
4. Seminar in Materials Science and Engineering, MTSC 5700. A minimum of 2 semester credit hours. Please see "Seminar in Current Topics in Materials Science."

Seminar in Current Topics in Materials Science and Engineering

All doctoral students are expected to attend MTSC 5700 during each term/semester of full-time graduate study. A seminar based on the student's dissertation research must be given during the regularly scheduled class time prior to and in addition to the formal defense of the dissertation.

Minor in Materials Science and Engineering

Students pursuing degrees in other disciplines can apply for a minor in materials science through the department office. The minor of materials science requires 12 hours of materials science related course work approved by the department graduate adviser.

Courses of Instruction

All courses of instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.



School of Library and Information Sciences

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Herman L. Totten, Dean

Linda Schamber, Associate Dean

Graduate Faculty: Chandler, Chen, Cleveland, Figa, Hastings, Miksa, Moen, O'Connor, Oyarce, Schamber, Simpson, Stein-Martin, Totten, Turner, Wheeler.

The School of Library and Information Sciences prepares graduates for dynamic roles in the knowledge age. The school's mission is to provide resources, research and service for education; provide leadership to the library and information community; and prepare information professionals of the highest quality to serve the state, the region and the global community.

The goals of the school are to:

- prepare information professionals who demonstrate excellence in leadership, service, research and education in a technology-driven environment;
- advance and contribute to leading-edge research and scholarship;
- contribute to professional, academic, and public interests through consulting, continuing education and leadership; and
- provide high quality distributed learning opportunities while maintaining a high-quality residential experience.

The school offers a graduate program leading to the following degree:

- Master of Science with majors in information science and library science.

In addition, the school administers an interdisciplinary doctoral program leading to the following degree:

- Doctor of Philosophy with a major in information science.

The school also offers a certificate (non-degree) program in advanced study and graduate academic certificates in youth services in libraries and information settings, storytelling, and advanced management in libraries and information agencies.

Graduates are prepared for diverse professional positions in both the public and private sectors and practice in a variety of libraries and information service agencies, including academic, public and school libraries, information analysis centers and information utilities.

Students may take elective courses in library and information science, or they may complete minor programs of study at the graduate and undergraduate levels. Students who are not pursuing degree programs may enroll for individual courses, workshops, seminars and institutes with non-degree status. (For undergraduate programs, see the *Undergraduate Catalog*.)

Graduate students may study full-time or part-time. They may begin their course of study in the fall, spring or summer term/semester.

Prospective applicants for admission should visit the School of Library and Information Sciences web site at www.unt.edu/slis to access application forms and current information on the school's programs.

The school's graduate degree programs are available through the Academic Common Market at in-state tuition rates for qualified out-of-state students in the southeastern states who pursue studies on campus.

The Master of Science degree program is accredited by the American Library Association [50 East Huron Street, Chicago, IL 60611; (800) 545-2433].

Research

Faculty pursue research in diverse areas of the library and information science fields, including the implementation and management of automated library systems; information policy, digital image retrieval, access and organization of 3D images; storytelling, ethnography of information systems, digital libraries and preservation of multimedia; technology and facility design; the use of technical report literature by scientists and engineers; metadata and organization of networked resources; standards development and application; competency-based learning in the information professions; computerized indexing and abstracting methods; bibliometrics; the relationship of cognitive learning style patterns to information processing; information, communication, and cognitive theories related to human behavior in information seeking, searching, evaluation and use; impacts of electronic publishing on scholarly communication; retrieval of visual images; technical services and bibliographic control; computer-based bibliographic networks and online information services; feedback; the school library media specialist as instructional consultant; information resources and services relating to principal groups (minorities, children and young adults); copyright application in libraries; scientific visualization; distribution patterns of human judgments of relevancy and nonrelevancy on documents and images; choice theory; medical

informatics; information resources and services in business, biomedical, legal and government fields; evaluation of authority of Internet sources and information; ethics in use of technology; and evaluation of information system services and user needs.

Joint student/faculty research projects include cognitive models of producers and users in distance education; assessing the quality and usability of metadata; linear classifiers applied to document feature vectors; Web searching; interactive information retrieval; use and perception of the World Wide Web by international physicians.

Faculty members (and doctoral students) have published the results of their research in a variety of national and international journals, including, *Acquisitions Librarian; Advances in Digital Libraries; Annual Review of Information Science and Technology; The Book Report; Communications of the ACM; Government Information Quarterly; Information Standards Quarterly; International Education Reform; Journal of the American Society for Information Science; Journal of Education for Library and Information Science; Journal of Library Administration; Knowledge Quest; Library and Information Science Research; Library Media Connection; Library Talk; Library Trends; Media and Methods; Medical Reference Services Quarterly; Planning for Higher Education; Principal; Proceedings of the American Society for Information Science; Proceeding of the Annual Symposium on Computer Applications in Medical Care; School Library Media Quarterly; Standard View; Teacher-Librarian; Teach-Trends; Technology Connection; Texas Library Association Journal; Topics in Health Information Management; and Visual Resources.*

Degree Programs Master of Science

The master's degree program provides the basic graduate preparation required for the first professional degree. *The Master of Science is one of the 58 degree programs in the United States and Canada that are accredited by the American Library Association [50 East Huron Street, Chicago, IL 60611; (800) 545-2433].*

The master's degree is offered in a residential format in Denton, in an off-campus format in Houston and Dallas, and through the school's online program called the Web/Institute. Students pursuing the master's degree in the Web/Institute attend either one nine-day institute (held in June in Denton) or two four-day institutes (held in fall and spring in Denton and at the University of Houston and alternating years at the University of Minnesota and the University of Nevada-Las Vegas). After completing the institutes, students may pursue the remainder of their studies online or take a combination of web-based and face-to-face courses. The

on-campus and distance education degree programs are governed by the same policies and procedures for admission, retention and graduation. The programs are supervised by the dean of the school with central coordination under the vice president for academic affairs. The programs function under the same governance structures for ensuring that curriculum and instructional mechanisms are in keeping with the mission and educational outcomes of the school. All policies and procedures related to admission, satisfactory academic progress, courses of study for degree requirements, course objectives, and grading criteria for courses are clearly stated and published as appropriate in the school's bulletin, student handbook, course outlines, or printed program guides.

The master's program prepares information professionals for work in a variety of roles and application settings, including various information agencies and all types of libraries. In addition, the program prepares at a master's level individuals who wish to pursue study in the theoretical development of information science.

To provide this education, the program rests on a broad conceptual framework that is covered in the core courses, and the program is elaborated in courses that educate information professionals for a number of different client settings. The unique nature of this program, and what sets it apart from other programs in the university that may deal in some way with the topic of information, is the approach to the study of information, its behavior and its use from the point of view of the user.

Goals and Objectives

The master's program goal is to prepare students to understand the principles, analyze the problems, and design and implement practices related to recordable information, including its creation, communication, identification, selection, acquisition, organization, description, storage, retrieval, preservation, analysis, interpretation, evaluation, synthesis, dissemination and management.

The objectives are for students to:

1. understand the critical impact of electronic technology and networks on information practices;
2. remain flexible and able to manage change in a technology-driven and knowledge-based environment;
3. plan, manage, and implement information systems in the networked environment for the creation, organization and dissemination of information;
4. develop and implement conceptual and technological systems and structures for the organization of information in any format for effective access;
5. understand human information behavior in order to design and implement information systems and services that meet user needs;
6. evaluate, synthesize and present information for client use;
7. demonstrate communication skills necessary for personal and professional growth, leadership, interaction and collaboration in appropriate professional contexts;
8. manifest a commitment to the philosophy, principles and legal and ethical responsibilities of the field;
9. recognize the impacts of information policies, practices, and information itself on diverse populations in a technological and global society;
10. demonstrate additional knowledge and competencies appropriate to their individual interests, specializations and career goals;
11. understand the importance of professional development, continuing education and participation in professional organizations; and
12. relate the methodologies and content of other disciplines to the information field and understand the contribution of the information field to other disciplines.

Admission Requirements

Applicants for admission to degree status and candidacy in the master's program must meet the following requirements:

1. a bachelor's degree from a regionally accredited institution that includes a strong concentration in at least one area;
2. an overall undergraduate grade point average of at least 2.8 (4.0 scale) or at least 3.0 in the last 60 hours of undergraduate work;
3. acceptable scores on the Graduate Record Examination (GRE), the Miller Analogies Test (MAT) or the Graduate Management Admission Test (GMAT) (applicants will be considered for regular admission only if satisfactory entrance exam scores are on file at the time the admission application is considered by the school); contact the School of Library and Information Sciences or the Toulouse School of Graduate Studies for information concerning acceptable standardized admission test scores;
4. three satisfactory letters of recommendation from former professors, employers or others who can give evidence of personal aptitude for, as well as interest in, a career in the information field; and
5. a personal statement of career objectives providing additional information concerning motivation for professional service and areas of special interest.

Proficiency in reading, writing and speaking English is expected of all students; if English is not a

native language, a satisfactory score of at least 550 is required on the Test of English as a Foreign Language.

Applicants meeting the stated minimum grade point average and entrance examination scores are not guaranteed admission. Should additional information be needed to evaluate the admissibility of an applicant, an interview may be required. Prospective students are invited to visit the campus and the school and are encouraged to schedule an appointment to meet with a member of the faculty.

In exceptional cases, applicants who are judged by the faculty to show promise for successful graduate study may be granted provisional admission, even though they do not meet all admission requirements.

Procedure for Applying

Students may enter the master's degree program in the fall, spring or summer term/semester. Applicants should complete the requirements listed below and meet the admission deadlines listed in the Academic Calendar section of this catalog.

1. Obtain admission to the university and the School of Graduate Studies by filing the following items with the School of Graduate Studies:

- a. complete official transcripts from all colleges or universities attended;
- b. application for admission to the School of Graduate Studies;
- c. official scores on the entrance examination;
- d. the application fee; and
- e. any other forms or materials required by the School of Graduate Studies.

School of Graduate Studies application forms, instructions and other materials should be requested from the Dean of the School of Graduate Studies.

2. File with the School of Library and Information Sciences the following items:

- a. School of Library and Information Sciences application, available in .pdf format;
- b. three letters of recommendation; and
- c. statement of purposes and goals.

All application materials and a description of the application procedures are available on the school's web site (www.unt.edu/slis), or may be requested from the School of Library and Information Sciences.

Program Requirements

The program may be completed in one calendar year of full-time study, although many students extend their work over a longer period. At the time of graduation, all course work used to satisfy degree requirements may be no more than six years old.

Students in all graduate programs are required to demonstrate general computer proficiency before starting the program. This requirement may be satisfied by

taking SLIS 5710, Information Technology, by taking the Information Technology Knowledge and Skills Assessment (see www.unt.edu/slis for this assessment), by passing a computer proficiency examination designed by the school or through faculty approval of prior course work or experience. This proficiency will include knowledge of computing terminology and concepts, as well as minimal competency in the use of specific types of applications software.

Master's students also must present evidence of relevant experience by meeting a field experience requirement. This requirement may be satisfied through appropriate prior experience as approved by the faculty or through a practicum or internship. Students without prior experience may be required to take SLIS 5090, Practicum and Field Study.

Further information concerning these requirements may be obtained through the school.

Neither SLIS 5710 nor SLIS 5090 counts toward fulfilling the 36 hours of graduate credit required for the degree.

Students must complete all planned course work with an average grade of B (3.0) or better, successfully complete a capstone experience, and file an application for the degree.

Core Courses

- SLIS 5000, Introduction to Information Professions, 1 hour
- SLIS 5200, Introduction to Information Organization, 4 hours
- SLIS 5600, Introduction to Information Access and Retrieval, 4 hours

At least 27 additional hours of other course work, *planned in consultation with a faculty adviser*, are required.

Up to 9 *adviser-approved* hours from any institution (including other programs at UNT) may be transferred in to be used in the master's program. (The core cannot be transferred in.) At least 24 of the 36 hours in the master's program must be from organized SLIS courses (excludes transfer courses, practicums and independent study).

Programs of Study

Majors

Students may choose a major in either library science or information science upon completion of their core courses.

Elective courses beyond the 9 hours of required core courses are determined in consultation with the student's faculty adviser. To assist in the advising process, the faculty have approved several programs of study. All course selections must be made under the guidance of a student's faculty adviser and approved by the associate dean. See www.unt.edu/slis for a description of each program of study.

Master's Programs of Study/Advising Guides

The faculty of the School of Library and Information Sciences has created programs of study that serve as advising guides for students majoring in either library science or information science. The student, working with a faculty adviser, creates an individualized program reflecting the student's career goals.

General Program of Study

The general program of study is intended to prepare graduates to succeed in a wide range of library and information science positions in any type of library. Students should take at least one course in each of the following areas: *Human Information Behavior (Cognitive, Organizational and Societal Issues)*; *Organization of Information*; *Retrieval and Access*; *Information Technologies*; and *Management and Administration*.

Digital Image Management

The digital image management program of study is intended to prepare graduates who will assume leadership roles. Graduates will be able to manage all aspects of digital images from production and organization to copyright and network design. The program includes the production of digital images, digital information database creation, and management of digital information, which are important skill sets for current and future library and museum information professionals. In addition, the program prepares individuals to assume positions as experts in the broader markets of libraries, archives and information centers. An integral part of the educational experience for the students enrolled in the program is the opportunity to work as interns at area museums, archives and information centers.

Distributed Learning Librarianship

The goals of this program are to provide a grounding in information and telecommunication technologies that underpin distributed learning, an understanding of copyright and intellectual property issues, and a knowledge of the issues facing those providing library services to students in a distributed learning environment.

Health Informatics Specialist

Opportunities for health sciences librarians as well as others interested in health information management are diverse and challenging, ranging from very specialized kinds of positions in large medical research or teaching institutions to personalized service roles in small hospital libraries and extensive information services in pharmaceutical companies or interacting with other health care providers through medical informatics. The program focuses on the fundamental concepts and activities in health information processing, including health information

storage and retrieval systems, clinical decision support, clinical research and issues in health care financing, consumer health advocacy, and legal, ethical, and philosophical concerns in health informatics.

Information Organization

In the information organization program of study, students learn how to organize information for a wide variety of information formats, resources, systems and environments. Graduates may be responsible for cataloging, indexing and abstracting in libraries or bibliographic utilities; organizing networked resources, web sites and images in digital libraries; or organizing special materials in museums and archives. They are expected to understand issues of data representation and management and the need to respond actively to change.

Information Systems

The work that a graduate of this program is likely to perform involves extensive human contact. Moreover, this work is also directed toward the synthesis of intellectual skills such as classification and metadata description with web administration and web site design. In essence, graduates will be creating systems that will be used to answer questions that are unforeseen. These are the processes of knowledge management and knowledge discovery.

Law Librarian and Legal Informatics Specialist

The law librarianship and legal informatics program of study will prepare graduates for careers in law libraries, information organizations using legal information resources and information publishers. Law librarians play key roles as information professionals in the management of information, training, and information organization in many diverse settings including law schools, courts, private law firms, corporations, government departments and agencies, or in correctional institutions.

School Librarianship

This program of study focuses on the foundations of library and information science professional preparation with a specialization in library and information services and programming for children and young adults in the school setting. It prepares students to pass the appropriate state competency exam to receive the School Library Certificate.

Youth Librarianship

A national shortage of youth librarians has created many opportunities for service in metropolitan, suburban and rural public libraries as well as other settings where a specialization in the information needs of children and young adults is desired. The information professional serving youth is first of all fully knowledgeable in the theories, practices and emerging trends of library and information sciences but also must have

specialized knowledge of the particular information needs of young people. This program of study focuses on developing the competencies in the following areas specific to youth: the history of youth information services/systems; knowledge of the client group; administrative and managerial skills; communication skills; materials and collection development; reference services; programming skills; technology applications; advocacy, public relations and networking; and professionalism and professional development.

Minimum Academic Standards

The School of Graduate Studies requires that master's students make satisfactory progress toward completion of degree requirements to remain in good standing within a specific degree program. Students whose progress is unsatisfactory may be removed from the program.

Satisfactory Progress

Within the School of Library and Information Sciences, satisfactory progress toward the master's degree is defined as maintaining a minimum grade point average of 3.0 (B).

Should the academic performance fall below a cumulative GPA of 3.0 on all work attempted, the student will be placed on academic probation and will be so notified by the School of Graduate Studies.

Probation

Students whose cumulative GPA falls below 3.0 will be placed on academic probation.

Students on probation who do not achieve at least a 3.0 on all SLIS graduate courses taken in any term/semester and a 3.0 GPA for all courses taken in any term/semester will be dismissed from the program.

Students on probation must remove their probationary status within one calendar year following the term/semester in which their grades initiated probationary status. Failure to remove the probationary status within this time period will result in dismissal from the program.

Dismissal

Students who have been dismissed from the program are not eligible for readmission.

Graduation Requirements

- A student must have an average GPA of 3.0 (B) or higher on all course work in the degree program.
- A student may not count more than two Cs in the master's degree program requirements.
- All core courses must be completed with a grade of A or B.
- No course in which a student receives a grade below C will be counted toward the degree.

Post-Master's Certificate

The post-master's (sixth-year) program leading to a Certificate of Advanced Study is offered for those who seek further specialization in a particular aspect of library or information science. Those entering the program prepare for a level of competency beyond that provided by the master's degree. The program enables the professional to satisfy continuing education goals or requirements and enables individuals to update their knowledge and skills in the field of library or information science.

Admission requirements include those specified for the master's program. In evaluating applications, consideration is given to prior study and academic record, Graduate Record Examination aptitude scores, letters of recommendation, and career interests and objectives, as well as any prior professional experience. A satisfactory interview with members of the school's advanced studies committee or with a representative of the school as designated by the dean also is required normally either before or at the time of first enrollment for course work.

The program may be completed in two terms/semesters of full-time study or extended over a longer period.

The student must earn a minimum of 24 to 30 hours of graduate credit, which may include up to 12 hours in other disciplines, chosen or specified according to prior study and individual interests and objectives. Transfer credit may be approved for 3 to 6 hours, and at least half of the hours must be completed within the school.

The program of study, which is tailored to individual needs, must be planned with a faculty adviser and approved in advance by the dean of the school. No comprehensive examination or special research requirements are specified. Students must be admitted to candidacy to continue beyond 12 hours. Students must complete all planned course work with an average grade of B or better, and then file an application for the certificate.

Graduate Academic Certificates

Advanced Management in Libraries and Information Agencies

Storytelling

Youth Services in Libraries and Information Settings

The graduate academic certificate program is intended for two audiences:

1. master's degreed library and information science professionals who want to develop expertise in specific areas in libraries or other settings and receive a graduate academic certificate; and
2. bachelor's or master's degreed individuals who want to develop or enhance their knowledge of

specific areas in libraries or other settings by taking master's-level courses and receiving a graduate academic certificate.

These graduate academic certificates consist of three or four courses.

Admission Information

Students must be admitted to the Toulouse School of Graduate Studies and are required to submit a graduate school application for admission and official transcripts from all prior colleges or universities attended. Graduate academic certificate applicants do not need to submit standardized tests scores such as the Graduate Record Examination (GRE), letters of recommendation, or statement of purpose for admission. Students who are awarded graduate academic certificates and later apply for admission to the master's program will be required to submit these materials.

Doctor of Philosophy with a Major in Information Science

The interdisciplinary doctoral program with a major in information science responds to the varied and changing needs of an information age. There is increasing recognition of the central role of information in individual, social, economic and cultural affairs, and the widespread application and influence of the revolutionary information and communication technologies. Graduates of the program will be prepared to contribute materially to the advancement and evolution of the information society. Such individuals will work in a variety of roles and application settings in information agencies as administrators, researchers and educators. The multifaceted nature of information requires the focusing of resources, courses and faculties from a broad range of academic units.

At UNT, nine units participate in the doctoral program. These units are:

- Department of Behavioral Analysis, College of Public Affairs and Community Service;
- Department of Information Technology and Decision Sciences, College of Business Administration;
- Department of Communication Studies, College of Arts and Sciences;
- Department of Journalism, College of Arts and Sciences;
- Department of Criminal Justice, College of Public Affairs and Community Service;
- Department of Technology and Cognition, College of Education;
- Department of Computer Science and Engineering, College of Engineering;
- School of Visual Arts; and
- School of Library and Information Sciences.

The program emphasizes the interrelationship of the economic, social, cultural and technological aspects of an evolving information society. The goal is to unify knowledge systems, problem-solving approaches and research methodologies regardless of their disciplinary roots, and to produce graduates who will be leaders in the information age.

Although technology is a vital part of the program, computers and communication systems are but one dimension of information science. Thus, the program is directed toward human information and communication capabilities that rest on a broad range of biological and behavioral attributes and the employment of technology.

The mission of the interdisciplinary doctoral program is to provide a center of excellence in graduate education and research in three related areas:

- accessibility, communication, management and use of information resources;
- human communication and information behavior, and the systems and technologies that enhance communication and learning; and
- information and communication processes in managerial, organizational, social and technical environments and the accompanying analysis, design and evaluation of information systems.

Admission Requirements

Admission to the PhD program with a major in information science is highly competitive. To maintain a student/faculty ratio necessary for program excellence, not all qualified applicants can be accepted. Prospective applicants must obtain all application forms for the program from the program offices located in the School of Library and Information Sciences. **All required materials must be filed by February 1 preceding the fall term/semester for which the student is applying and by September 1 for spring admission.** In addition to the admission requirements of the School of Graduate Studies, the following are required for admission to the interdisciplinary PhD program in information science.

1. Possession of a master's degree from an accredited institution preferred.
2. Completion of an application form for admission to the program.
3. Resume.
4. An example of formal writing (published paper, major term paper, etc.).
5. A personal statement giving the applicant's career objectives, research interests and specific qualifications to pursue doctoral work.
6. Three letters of recommendation.
7. A superior academic record in prior study.

8. An acceptable score on the Graduate Record Examination; contact the School of Library and Information Sciences or the Toulouse School of Graduate Studies for standardized admission test requirements.
9. For international students, a minimum score of 550 on the Test of English as a Foreign Language (TOEFL), or evidence of successful completion of a non-credit intensive course in English from the North Texas Intensive English Language Institute.
10. An interview may be required with members of the program committee of the interdisciplinary doctoral program in information science.

Program Requirements

The course work for the program can be completed in two years of full-time study or extended over a longer period. Typically, the dissertation requires an additional year.

General Course of Study

A student must earn a minimum of 60 semester hours of graduate credit beyond the master's degree in organized course work, directed study and research, and the dissertation. A research tool requirement also must be completed in addition to the minimum 60-hour program. Additional courses above the 60 hours also may be stipulated as needed, such as leveling courses. Students entering the program with a bachelor's degree must take at least 90 credit hours.

The number of graduate credit hours required for graduation, the distribution of credits, as well as the selection of the research tool requirement must be planned and approved under the direction of the student's major adviser. Requirements approved by the major adviser also must receive the concurrence of the student's doctoral advisory committee and be approved by the Interdisciplinary PhD Program Committee and the dean of the School of Graduate Studies. In all cases, courses counted toward the doctorate must be numbered 5000 or above.

The 60 hours (minimum), plus research tool, required for the degree are distributed among core courses, concentration, electives and dissertation research.

Core Areas, 21 Hours

Interdisciplinary colloquium, 3 hours
Methods core, 9 hours
Subject core, 9 hours

Areas of Concentration, 18 Hours in Two Areas

Information theory and design, 9 hours
Information and behavior, 9 hours
Information policy and management, 9 hours

Electives, 9 Hours

Electives, which must number 5000 or above, must be chosen with the approval of the student's major adviser.

Dissertation, 12 Hours

The student must complete a minimum of 12 hours in Doctoral Dissertation, INFO 6950.

Doctoral students must maintain continuous enrollment in the colloquium during each term/semester in which they are registered for courses prior to passing the qualifying examination for admission to candidacy. Only 3 hours of credit earned in the colloquia may be included in the degree plan. Students also must maintain continuous enrollment in INFO 6950 after advancement to candidacy until the dissertation is complete.

All students will be required to choose two concentrations from the three available.

1. **Information theory and design.** Seminars and research in this area explore ways to structure information and knowledge for a multitude of information systems and uses. Students and faculty develop measures and methods for the evaluation and study of information systems, related communications processes, and subsequent systems application and design or redesign.
2. **Information and behavior.** Studies relate to human information and communication behavior and the systematic response to these behaviors by using information technologies to advance communication and learning.
3. **Information policy and management.** Inquiries focus on organizational behavior in respect to information and the management of information, and of the organizations and systems that handle information.

With permission of the program committee, as well as the student's doctoral advisory committee, a special concentration may be created to provide a framework of learning for a student with special research interests that do not fall into one of three listed areas.

Degree Requirements

Core Areas, 21 Hours

Interdisciplinary Colloquium, 3 Hours

SLIS 6945, Doctoral Seminar in Information Issues (Colloquium) (1 hour required each term/semester; 3 hours toward degree).

Methods Core, 9 Hours

Design, 3 Hours
Statistics, 3 Hours
Elective, 3 Hours

Subject Core, 9 Hours

- SLIS 6000, Seminar in Information Science
- SLIS 6700, Seminar in Communication and Use of Information
- Readings in Information Science: INFO 6660, SLIS 6660, BCIS 6660, COMM 5880 or another appropriate readings course in CECS or CSCE

Areas of Concentration, 18 Hours in Two Areas

Information Theory and Design, 9 Hours

Information and Behavior, 9 Hours

Information Policy and Management, 9 Hours

Electives, 9 Hours

Electives, which must number 5000 or above, must be chosen with the approval of the student's major adviser.

Dissertation, 12 Hours

The student must complete a minimum of 12 hours in INFO 6950, Doctoral Dissertation.

Multidisciplinary Requirement

An objective of the PhD program is to provide students with a variety of approaches to solving information problems from a number of disciplines. Therefore, no more than 18 graduate credit hours may be taken from any one academic unit in areas of concentration and electives.

Computer Tool Requirement

A student entering the program is expected to have basic computer knowledge consisting of computer usage in society and uses of micro-packages for productivity, including word processing, databases and spread sheets. In addition, students should have programming experience in one of a variety of computer languages.

Satisfactory attainment of these background requirements will be determined by the student's adviser and the program committee. Deficiencies can be met by enrollment in a variety of courses as determined by the student's major adviser and the program committee.

Research Requirement

Students are expected to have completed the equivalent of one of the following research methods or statistics classes upon admission to the program. If this requirement has not been met, the student will be expected to take one of the following courses as a deficiency.

- EPSY 5210, Educational Statistics
- COMM 5320, Communication Research Methods
- DSCI 5180, Data Analysis
- SLIS 5080, Research Methods and Analysis

Information Organization Requirement

Students are required to have completed basic course work in the organization of information equivalent to SLIS 5200, Introduction to Information Organization. If this requirement has not been met, the student will be expected to take SLIS 5200 as a deficiency.

Review of Progress

The program committee will review annually the programs of all PhD students.

The first review for a student will be before the end of his or her first year of study, or upon completion of 18 hours of study. The review will include information made available from the student's professors and the student's grades. The student must maintain a grade average of B on all course work on the degree plan.

The program committee will vote either to let the student continue his or her studies, or to recommend to the executive committee that the student's program be discontinued. The program committee will consult with the student's major adviser and doctoral advisory committee as required. A majority vote of the program committee is required in either case.

The decision of the program committee may be appealed. Statements of procedures to be followed are available in the office of the graduate dean.

Admission to Candidacy

General qualifying examinations may be scheduled by the student's advisory committee when all course work as presented in the degree plan has been completed with a minimum B average, the research tool requirement has been satisfied, any deficiencies have been removed and the records have been cleared of any incomplete grades.

The examination is given in two parts: written and oral. The written part covers the subject core, methods core and each of the two areas of concentration. The format of the written examination is normally an in-house, closed-book examination, handwritten or produced on a word processor, given in four sections of four hours duration. The oral part includes questions regarding the written examination and the presentation and defense of a preliminary dissertation proposal. A formal dissertation proposal must be presented later and defended before the student's doctoral advisory committee in an open forum.

When the student has passed the qualifying examinations and a dissertation topic is approved, the advisory committee and program committee may then recommend the student for admission to candidacy for the doctorate.

Research and Dissertation

The student must submit a dissertation reflecting original and independent research and representing a significant contribution to the field. The dissertation

must be based on an approved proposal. When the major professor and other members of the advisory committee have reviewed the dissertation, the final examination, which normally will be primarily a defense of the dissertation, may be scheduled. The student must perform satisfactorily on the final examination and then file an application for the degree.

Further Information

For further information about any degree or certificate program, write or call the School of Library and Information Sciences or visit the school's web site: www.unt.edu/slis. Personal interviews and counseling may be arranged through the school office.

The School of Library and Information Sciences does not discriminate on the basis of disability in the recruitment and admission of students, the recruitment and employment of faculty and staff, and the operation of its programs and activities, as specified by federal laws and regulations. Copies of the school's ADA compliance policy are available in the school office. Problems may be reported to the school's ADA liaison, Information Sciences Building, Room 205; (940) 565-2445.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

School of Merchandising and Hospitality Management

Main Office
Chilton Hall, 331
P.O. Box 311100
Denton, TX 76203-1100
(940) 565-2436
Web site: www.smhm.unt.edu

Judith C. Forney, Dean

Johnny Sue Reynolds, Associate Dean

Lynne Hale, Graduate Coordinator

Graduate Faculty: Brandon, Clay, Connors, Crutsinger, Dopson, Forney, Getty, Josiam, Kennon, E. Kim, H. Kim, Kinley, Knight, LaBrecque, Reynolds, Tas.

The School of Merchandising and Hospitality Management offers graduate programs leading to the following degrees:

- Master of Science with a major in hospitality management, and
- Master of Science with a major in merchandising.

The School of Merchandising and Hospitality Management, in collaboration with the College of Business Administration, offers the following dual degrees:

- Master of Business Administration/Master of Science with a major in hospitality management, and
- Master of Business Administration/Master of Science with a major in merchandising.

The programs of study for the Master of Science degrees in merchandising, and hospitality management are offered as resident programs as well as a totally web-based program.

These graduate programs are designed to meet personnel needs in product merchandising and hospitality management. These two fields of study represent high growth global industries with increasing demands for highly skilled leaders who can solve complex problems, create new opportunities in very competitive markets, and have a holistic understanding of the many components that support a successful business venture. Teaching and research focus on the broad concepts of products, service, resource management, information-exchange technology and total experience management in consumer-driven global



markets. Close proximity to a major apparel and home furnishings market complex, major retailers, wholesalers, manufacturers, major hotels, restaurants, and food service businesses provides excellent affiliations and internship opportunities. The Dallas-Fort Worth region is the headquarters for numerous retail, lodging and restaurant companies.

The School of Merchandising and Hospitality Management operates as one unit but is organized into divisions based on the following programs.

Hospitality Management

The mission of the division of hospitality management is to educate students for management and leadership positions in the hospitality industry and to contribute to the profession through teaching excellence, research, publication, consultation and related service activities. Lea Dopson is chair of the division of hospitality management.

Merchandising

The mission of the division of merchandising is to integrate educational experiences and research that contribute to critical analyses of merchandising strategies as they relate to the development, distribution, evaluation and use of products that are fashion-oriented and undergo continuous change in the

consumer-driven global market. Christy Crutsinger is chair of the division of merchandising.

Degree Plan

The degree plan is developed in consultation with the student's major professor to meet the specific student needs and career objectives.

Research

Research in the hospitality management division includes hotel, restaurant, and bed and breakfast operations; legal and regulatory aspects; cost containment; and consumer issues impacting the hospitality industry. Other research interests include quality issues, managerial competencies, food safety, nutrition and dining habits of consumers, tourism, and hospitality education and administration.

Research in the merchandising division focuses on consumer-driven markets and market segmentation for fashion-oriented products. Specific emphases are on merchandising in domestic and global markets and to specific demographic segments. Additional research focuses on merchandising technology, brand extension across apparel and home furnishings, quality service, cross-cultural consumer analyses, non-store retailing, e-commerce, retail employee professional development, evaluative criteria, experiential retailing and tourism shopping, and brand quality.

Scholarships

Information about the following scholarships may be obtained by writing to the associate dean of the School of Merchandising and Hospitality Management. Completed School of Merchandising and Hospitality Management scholarship applications are due February 1 in the office of the dean of the School of Merchandising and Hospitality Management. A minimum GPA of 3.0 is required for scholarship application, unless otherwise noted.

To keep a scholarship, the student must maintain:

- 3.0 GPA each term/semester and 3.0 overall GPA;
- status as major in the School of Merchandising and Hospitality Management, taking required courses on degree plan and enrolling in at least one SMHM class per term/semester; and
- full-time status (i.e., 9 credit hours for graduate students).

The following scholarships may be awarded to either merchandising or hospitality management majors:

- John W. and Fannie L. Woodruff
- Dean Suzanne V. LaBrecque
- R. L. Cartwright Memorial

The following scholarships are awarded to merchandising majors:

- Bettye Bunge MacArthur Memorial Scholarship
- D. Ileana SiFuentes Memorial Scholarship
- Fossil Scholarship
- J.C. Penney Company Scholarship
- Murray Munves Scholarship for Fashion Merchandising
- Nordstrom Merchandising Scholarship
- Pier 1 Imports Scholarship
- Ruth L. Hutcheson Scholarship
- Van Wyk Scholarship

The following scholarships are awarded to hospitality management majors:

- Alladin Hussein Endowed Memorial Scholarship
- Banfi Vinters Scholarship
- Ben E. Keith Scholarship
- Billie L. Parker Scholarship
- Chancellor's HRM Scholarship
- City Club of Fort Worth Work/Study Scholarship
- Colin Ridgway Endowed Memorial Scholarship Fund
- Don Paul and Esther Smith Scholarship
- FELCOR Lodging Trust Scholarship
- Gaylord Texan Resort and Convention Center Scholarship
- Hiram Walker Hospitality Scholarship
- Hospitality Management Board of Governors Scholarship
- Jerry W. Dickenson Scholarship in Hotel and Restaurant Management
- Joan Marie and Raymond J. Clay Scholarship
- J. T. Whitaker Endowed Scholarship
- Les Dames d'Escoffier Scholarship
- Lucille Murchison Scholarship
- Marriott International Scholarship
- National Association of College and University Food Services Scholarship
- Network of Executive Women in Hospitality Scholarship
- PFS Scholarship
- Roundtable for Women in Food Service Endowed Scholarship
- Ruby Nell McMahan Ruth Scholarship in Hotel and Restaurant
- Spring Creek Barbecue Scholarship
- Worthington Hotel Endowed Scholarship

Assistantships

A limited number of graduate teaching and research assistantships are available in the school. Contact the Office of the Dean for information.

Degree Programs

Master of Science with a Major in Hospitality Management

Admission Requirements

The student must meet the requirements for admission to the Toulouse School of Graduate Studies. Included in these requirements are:

- a bachelor's degree from an accredited university;
- an overall undergraduate GPA of at least 3.0 for the last 60 semester hours of course work or a 2.8 GPA on all undergraduate work;
- acceptable scores on the Graduate Record Examination (GRE) or the GMAT must be submitted with application to the Graduate School. (Contact the department or the Toulouse School of Graduate Studies for information concerning acceptable admission test scores. GRE or GMAT score must be less than 10 years old.);
- a demonstrated proficiency in oral and written English; and
- a minimum of 24 semester hours of undergraduate work in hospitality management or the equivalent; 12 of the 24 hours must be advanced. Students who do not meet the requirements must complete specified prerequisite courses in hospitality management before beginning the graduate program. No single prerequisite course may have a grade lower than B.

Degree Requirements

The student must earn a minimum of 36 semester hours.

Research Tools

- SMHM 5300, Research Methods in Merchandising and Hospitality Management
- SMHM 5400, Research Applications in Merchandising and Hospitality Management

Courses in Major (select 21–24 hours from the following)

- SMHM 5250, Restaurant Development
- SMHM 5280, Hotel and Restaurant Operations: Theory and Analysis
- SMHM 5350, Issues and Trends in Merchandising and Hospitality Management
- SMHM 5440, Consumer Theory
- SMHM 5460, Human Relations in Merchandising and Hospitality Management
- SMHM 5550, Promotional Strategies
- SMHM 5600, Concept Merchandising
- SMHM 5700, Service Excellence
- SMHM 5750, Electronic Merchandising
- SMHM 5790, Field Experience
- SMHM 5800, Seminar in Merchandising (may be repeated for credit as topics vary)

- SMHM 5830, Legal and Regulatory Aspects of Merchandising and Hospitality Management
- SMHM 5900-5910, Special Problems

In the required 21–24 hours, a maximum of 6 hours may be included from the following list:

- SMHM 5000, Merchandising Study Tour
- SMHM 5200, Survey of Beverages in the Hospitality Industry
- SMHM 5260, Hospitality Business Strategies
- SMHM 5480, Hospitality Industry Finance
- SMHM 5730, Hotel and Restaurant Management Systems
- SMHM 5820, Facilities Planning, Equipment, Layout and Design
- SMHM 5850, Brand Development

Minor (6–9 hours)

A minor usually consists of 6 hours of course work with the same prefix, but up to 9 hours may be taken in courses outside of merchandising with the consent of the dean and the student's major professor.

The thesis option requires 6 hours in a minor area. The non-thesis option requires a minor of 6 or 9 hours.

Recommended minors are marketing, education, computer education and cognitive systems, and business computer information systems.

Thesis Option or Non-Thesis Option

The student will select one of the following options.

- **Thesis Option:** This option requires a minimum of 36 semester hours with 24 hours in the student's major area, 6 hours of SMHM 5950, Master's Thesis. The minor must have a minimum of 6 hours from a department outside hospitality management. The student must complete and defend the thesis successfully and submit it for approval.
- **Non-Thesis Option:** This option requires a minimum of 36 semester hours with 24 hours in the student's major area, plus a minor. A minimum of 6 hours must be from a department outside the School of Merchandising and Hospitality Management. The student must pass a written comprehensive exam upon successful completion of all course work.

Online Master of Science with a Major in Hospitality Management

The student must earn a minimum of 36 semester hours.

Online Thesis Option

SMHM Hospitality Management Core (6 hours)

- SMHM 5250, Restaurant Development
- SMHM 5280, Hotel and Restaurant Operations: Theory and Analysis

Research Tools/Minor (6 hours)

- EPSY 5050, Educational Research and Evaluation
- EPSY 5210, Educational Statistics

Thesis Course (6 hours)

- SMHM 5950, Master's Thesis

SMHM Courses**(select 18 hours, excluding SMHM 5950)**

- SMHM 5350, Issues and Trends in Merchandising and Hospitality Management
- SMHM 5440, Consumer Theory
- SMHM 5550, Promotional Strategies
- SMHM 5600, Concept Merchandising
- SMHM 5700, Service Excellence
- SMHM 5790, Field Experience
- SMHM 5850, Brand Development
- SMHM 5900-5910, Special Problems

Minor (0–6 hours)

Courses must be approved by SMHM adviser.

Online Non-Thesis Option**SMHM Hospitality Management Core (6 hours)**

- SMHM 5250, Restaurant Development
- SMHM 5280, Hotel and Restaurant Operations: Theory and Analysis

Research Tools/Minor (6 hours)

- SMHM 5300, Research Methods in Merchandising and Hospitality Management
- SMHM 5400, Research Applications in Merchandising and Hospitality Management

SMHM Courses (select 18 hours to 24 hours, excluding SMHM 5950)

- SMHM 5350, Issues and Trends in Merchandising and Hospitality Management
- SMHM 5440, Consumer Theory
- SMHM 5550, Promotional Strategies
- SMHM 5600, Concept Merchandising
- SMHM 5700, Service Excellence
- SMHM 5790, Field Experience
- SMHM 5850, Brand Development
- SMHM 5900-5910, Special Problems

Minor (0–6 hours)

Courses must be approved by SMHM adviser.

Master of Science with a Major in Merchandising**Admission Requirements**

The student must meet the requirements for admission to the Toulouse School of Graduate Studies. Included in these requirements are:

- a bachelor's degree from an accredited university;

- an overall undergraduate GPA of at least 3.0 for the last 60 semester hours of course work or a 2.8 GPA on all undergraduate work;
- acceptable scores on the Graduate Record Examination (GRE) or the GMAT must be submitted with application. (Contact the department or the Toulouse School of Graduate Studies for information concerning acceptable admission test scores. GRE or GMAT score must be less than 10 years old.);
- a demonstrated proficiency in oral and written English; and
- a minimum of 24 semester hours of undergraduate work in merchandising, or the equivalent; 12 of the 24 hours must be advanced. Students who do not meet the requirements must complete specified prerequisite courses in merchandising before beginning the graduate program. No single prerequisite course may have a grade lower than a B.

Degree Requirements

The student must earn a minimum of 36 semester hours.

Research Tools

- SMHM 5300, Research Methods in Merchandising and Hospitality Management
- SMHM 5400, Research Applications in Merchandising and Hospitality Management

Courses in Major**(select 21–24 hours from the following)**

- SMHM 5240, Merchandising Practices
- SMHM 5350, Issues and Trends in Merchandising and Hospitality Management
- SMHM 5440, Consumer Theory
- SMHM 5460, Human Relations in Merchandising and Hospitality Management
- SMHM 5550, Promotional Strategies
- SMHM 5600, Concept Merchandising
- SMHM 5650, Global Merchandising
- SMHM 5700, Service Excellence
- SMHM 5750, Electronic Merchandising
- SMHM 5790, Field Experience
- SMHM 5800, Seminar in Merchandising (may be repeated for credit as topics vary)
- SMHM 5830, Legal and Regulatory Aspects of Merchandising and Hospitality Management
- SMHM 5900-5910, Special Problems

In the required 21–24 hours, a maximum of 6 hours may be included from the following list:

- SMHM 5000, Merchandising Study Tour
- SMHM 5080, Merchandising Ventures
- SMHM 5090, Virtual Merchandising
- SMHM 5660, Advanced Merchandising Applications
- SMHM 5850, Brand Development

Minor (6–9 hours)

A minor usually consists of 6 hours, but up to 9 hours may be taken in courses outside of merchandising with the consent of the dean and the student's major professor.

The thesis option requires 6 hours in a minor area. The non-thesis option requires a minor of 6 or 9 hours.

Recommended minors are marketing, education, computer education and cognitive systems, and business computer information systems.

Thesis Option or Non-Thesis Option

The student will select one of the following options.

- **Thesis Option:** This option requires a minimum of 36 hours with 24 hours in the student's major area, including 6 hours of SMHM 5950, Master's Thesis. The minor must have a minimum of 6 hours from a department outside merchandising. The student must complete and defend the thesis successfully and submit it for approval.
- **Non-Thesis Option:** This option requires a minimum of 36 semester hours with 24 hours in the student's major area, plus a minor. A minimum of 6 hours must be from a department outside the School of Merchandising and Hospitality Management. The student must pass a written comprehensive exam upon successful completion of all course work.

Online Master of Science with a Major in Hospitality Merchandising

The student must earn a minimum of 36 semester hours.

Online Thesis Option**SMHM Merchandising Core (6 hours)**

- SMHM 5500, Merchandising Strategies
- SMHM 5650, Global Merchandising

Research Tools/Minor (6 hours)

- EPSY 5050, Educational Research and Evaluation
- EPSY 5210, Educational Statistics

Thesis Course (6 hours)

- SMHM 5950, Master's Thesis

SMHM Courses

(select 18 hours, excluding SMHM 5950)

- SMHM 5240, Merchandising Practices
- SMHM 5350, Issues and Trends in Merchandising and Hospitality Management
- SMHM 5440, Consumer Theory
- SMHM 5550, Promotional Strategies
- SMHM 5600, Concept Merchandising
- SMHM 5700, Service Excellence
- SMHM 5790, Field Experience
- SMHM 5850, Brand Development
- SMHM 5900-5910, Special Problems

Minor (0–6 hours)

Courses must be approved by SMHM adviser.

Online Non-Thesis Option**SMHM Merchandising Core (6 hours)**

- SMHM 5500, Merchandising Strategies
- SMHM 5650, Global Merchandising

Research Tools/Minor (6 hours)

- SMHM 5300, Research Methods in Merchandising and Hospitality Management
- SMHM 5400, Research Applications in Merchandising and Hospitality Management

SMHM Courses (select 18 hours to 24 hours, excluding SMHM 5950)

- SMHM 5240, Merchandising Practices
- SMHM 5350, Issues and Trends in Merchandising and Hospitality Management
- SMHM 5440, Consumer Theory
- SMHM 5550, Promotional Strategies
- SMHM 5600, Concept Merchandising
- SMHM 5700, Service Excellence
- SMHM 5790, Field Experience
- SMHM 5850, Brand Development
- SMHM 5900-5910, Special Problems

Minor (0–6 hours)

Courses must be approved by SMHM adviser.

MBA/MS in Hospitality Management and MBA/MS in Merchandising

The MBA/MS with a major in Hospitality Management and the MBA/MS with a major in merchandising each require a total of 54 hours for the dual degree. Hospitality management and merchandising courses are offered as residency classes in the evening or in web-based format. MBA courses are offered on weekends and/or evenings. With approval, 12 hours of graduate work may be transferred from another university.

Admission Requirements

- a bachelor's degree from an accredited university;
- an overall undergraduate GPA of at least 3.0 for the last 60 semester hours of course work or a 2.8 GPA on all undergraduate work;
- an acceptable GRE or GMAT score must be submitted with the application (refer to MBA background requirements); GRE or GMAT score must be less than 10 years old;
- a score of at least 550 on TOEFL or a graduate of the Intensive English Language Institute at UNT or an undergraduate or graduate degree from an accredited college/university in the U.S. for applicants whose native language is not English;

- 13 semester hours of prerequisite work (12 hours must be advanced) in hospitality management for the MS in hospitality management;
- 12 semester hours in merchandising or a closely related area for the MS in merchandising; and
- 12 hours of background work are required for the MBA (background requirements for the MBA program are outlined in the College of Business Administration section in this catalog).

MS Hospitality Management Prerequisites (17.5–19 hours)

- SMHM 1420, Food Sanitation (1 hour)
- SMHM 1470, Introduction to Professional Food Preparation (3 hours)
- SMHM 2480, Hospitality Industry Managerial Accounting (3 hours) or ACCT 5020, Accumulation and Analysis of Accounting Data (1.5 hours)
- SMHM 2550, Restaurant Operations I (3 hours)
- SMHM 3700, Hotel Operations (3 hours)
- SMHM 4210, Hospitality Cost Controls (3 hours)
- SMHM 4250, Restaurant Operations II (3 hours)

MS Merchandising Prerequisites (12 hours)

- SMHM 2490, Introduction to Apparel Merchandising (3 hours) or SMHM 2400, Introduction to the Furniture Industry (3 hours)
- SMHM 4010, Global Textile and Apparel Industries (3 hours) or SMHM 3380, Global Home Furnishings Industry (3 hours)
- SMHM 3370, Fashion Theory and Trend Analysis (3 hours) or SMHM 3750, Consumer Studies in Apparel and Home Furnishings (3 hours) or SMHM 2750, Consumers in a Global Market (3 hours)
- SMHM 3510, Merchandising Problems

Program Requirements

MBA Required Core (18 hours)

- ACCT 5130, Accounting for Management
- BUSI 5190, Administrative Strategy
- DSCI 5180, Introduction to Decision Making
- FINA 5170, Financial Management
- MGMT 5140, Organizational Behavior and Analysis
- MKTG 5150, Marketing Management

Specialization in Business (select one area for 12 hours)

Refer to MBA program for specific requirements for the following:

- Accounting
- Administrative Management
- Finance
- Insurance
- Marketing
- Operations Management Science
- Organizational Behavior and Human Resource Management

MS Hospitality Management (select 24 hours)

- SMHM 5250, Restaurant Development
- SMHM 5280, Hotel and Restaurant Operation: Theory and Analysis
- SMHM 5300, Research Methods in Merchandising and Hospitality Management
- SMHM 5350, Issues and Trends in Merchandising and Hospitality Management
- SMHM 5400, Research Applications in Merchandising and Hospitality Management
- SMHM 5440, Consumer Theory
- SMHM 5460, Human Relations in Merchandising and Hospitality Management
- SMHM 5550, Promotional Strategies
- SMHM 5600, Concept Merchandising
- SMHM 5700, Service Excellence
- SMHM 5750, Electronic Merchandising
- SMHM 5790, Field Experience
- SMHM 5800, Seminar in Merchandising and Hospitality Management (may be repeated for credit as topics vary)
- SMHM 5830, Legal and Regulatory Aspects of Merchandising and Hospitality Management
- SMHM 5900-5910, Special Problems
- SMHM 5950, Master's Thesis

In the required 24 hours, a maximum of 6 hours may be included from the following list:

- SMHM 5000, Merchandising Study Tour
- SMHM 5200, Survey of Beverages in the Hospitality Industry
- SMHM 5260, Hospitality Business Strategies
- SMHM 5480, Hospitality Industry Finance
- SMHM 5730, Hotel and Restaurant Management Systems
- SMHM 5820, Facilities Planning, Equipment Layout and Design
- SMHM 5850, Brand Development

MS Merchandising (select 24 hours)

- SMHM 5240, Merchandising Practices
- SMHM 5300, Research Methods in Merchandising and Hospitality Management
- SMHM 5350, Issues and Trends in Merchandising and Hospitality Management
- SMHM 5400, Research Applications in Merchandising and Hospitality Management
- SMHM 5440, Consumer Theory
- SMHM 5460, Human Relations in Merchandising and Hospitality Management
- SMHM 5500, Merchandising Strategies
- SMHM 5550, Promotional Strategies
- SMHM 5600, Concept Merchandising
- SMHM 5650, Global Merchandising
- SMHM 5700, Service Excellence
- SMHM 5750, Electronic Merchandising
- SMHM 5790, Field Experience

- SMHM 5800, Seminar in Merchandising and Hospitality Management (may be repeated for credit as topics vary)
- SMHM 5830, Legal and Regulatory Aspects of Merchandising and Hospitality Management
- SMHM 5900-5910, Special Problems
- SMHM 5950, Master's Thesis

In the required 24 hours, a maximum of 6 hours may be included from the following list:

- SMHM 5000, Merchandising Study Tour
- SMHM 5080, Merchandising Ventures
- SMHM 5090, Virtual Merchandising
- SMHM 5660, Advanced Merchandising Applications
- SMHM 5850, Brand Development

Graduate Academic Certificates

Hospitality Management/Merchandising

The School of Merchandising and Hospitality Management offers a graduate academic certificate in hospitality management and a graduate academic certificate in merchandising. The purpose of these 12-hour graduate certificates is to offer professionals in hospitality, merchandising and retail industries the opportunity to build skills and knowledge in critical analysis and subject content. Admission criteria are the same for non-degree and certification-only students. Upon advisement of the SMHM graduate adviser and the chair of the respective program (hospitality management or merchandising), the student will complete 12 hours of content-based courses in the area of specialization. All 12 hours must be completed through UNT and with SMHM courses. The courses may be completed in residence, online or a combination of both. The merchandising graduate academic certificate program includes 6 semester hours of core courses: SMHM 5440 and 5500; plus 6 elective hours selected from SMHM 5550, 5600, 5650, 5700, 5750 and 5850. The hospitality management graduate academic certificate programs includes 6 semester hours of core courses: SMHM 5280 and 5350; plus 6 elective hours selected from SMHM 5250, 5460, 5550, 5700, 5830 (Legal and Regulatory Aspects) and 5800 (when taught as "Entrepreneurship").

Certificate students who choose to continue in a degree program are required to meet all the requirements, including GPA, GRE or GMAT, and prerequisites, of students seeking a degree in the school. Satisfactory work (minimum of a B grade) on graduate courses for the certificate may be applied to a 36-hour master of science degree program upon advisement of the graduate adviser, division chair, and the student's major professor, who will be selected when proceeding for a degree.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.



College of Music

Main Office
Music Building, 247
P.O. Box 311367
Denton, TX 76203-1367
(940) 565-2791

Office of Graduate Studies
Music Building, 249
(940) 565-3721

Web site: www.music.unt.edu

James C. Scott, Dean

Warren Henry, Associate Dean
Jon C. Nelson, Associate Dean
John C. Scott, Associate Dean
Graham H. Phipps, Director of Graduate Studies

Graduate Faculty: Alorwoyie, Austin, Baker, Banowitz, Borodin, Bowman, Bradetich, Brusilow, Bush, Bushkova, Cho, Clardy, Cooper, Corporon, Croft, Deane, Di Fiore, Dubberly, Dubois, Dworak, Emmanuel, Eschbach, Eustis, Fisher, Ford, Friedson, Garner, Gibbons, Gillespie, Groom, Haerle, Hamilton, Harlos, Hayes, Heidlberger, Henry, Holt, Homer, Illari, Jackson, K. Johnson, T. Johnson, Kagarice, Karlsson, Kern, Klein, Lewis, Little, May, McClung, McCoy, McCroskey, McTee, Murphy, Nelson, Nestler, Nordstrom, Notley, Osadchy, Paul, Phipps, Puccinelli, Ramsey, Reynolds, Riggs, Ritscher-Sackett, Rohwer,

Romero, Rutherford, Scharnberg, Schwarz, James C. Scott, John C. Scott, Seaton, Slater, Slottow, Snider, Soph, Sovik, Steinel, Sundberg, Sundquist, Taylor, Veazey, Viardo, Warner, Winsor, Wodnicki.

The College of Music offers to aspiring performers, composers, scholars and music educators a diversity of graduate programs in all aspects of the musical arts leading to the following degrees:

- Master of Music, with majors in music education, performance, jazz studies, music theory, composition and musicology;
- Master of Music Education, with a major in music education;
- Master of Arts, with a major in music;
- Doctor of Musical Arts, with majors in performance and composition; and
- Doctor of Philosophy, with majors in music education, music theory and musicology.

It is the purpose of these programs to develop and nurture the artistry, creativity, scholarship and professional competence that will provide musical leadership and standards of excellence in the various areas of musical activity in our society: cultural, pedagogical and commercial. The variety of possible majors within these degree programs and the comprehensive program of instruction in all areas of the College of Music provide a richly textured musical environment in which the musical experience of the student will be broadened as the area of specialization is pursued.

All degree programs are accredited by the National Association of Schools of Music [11250 Roger Bacon Drive, Suite 21, Reston, VA 20190; (703) 437-0700, fax: (703) 437-6312].

Graduate work in the College of Music is under the guidance of the director of graduate studies and appropriate committees.

Facilities

The Music Library, one of the largest in the United States, holds more than 120,000 items of music books, periodicals, scores, parts and microforms. It also owns complete works of more than 200 composers, among them new editions of the works of Bach, Handel, Berlioz, Mozart and Schoenberg, together with well over 100 historical collections.

Other noteworthy materials in the Music Library include the manuscript collection of the letters and early compositions of Arnold Schoenberg; the library of Lloyd Hibberd, distinguished North Texas musicologist, containing about 10,000 volumes especially strong in French baroque first editions and manuscripts; the Reinhard Oppel Memorial Collection encompassing approximately 10,000 pages of musical manuscripts, rare musical editions and books on music; sets of Hofmeister's *Handbuch der Musikalischen Literatur*, Pazdirek's *Universal-Handbuch der Musikkultur* and the *Dictionary Catalog of the New York Public Library Music Division*; a collection of more than 1,000 Duke Ellington discs, tapes and transcriptions, ranging from his earliest recordings in the 1920s through the 1960s; the Stan Kenton Collection of more than 1,600 original (manuscript) scores and parts used by the Stan Kenton bands and left by Kenton to the university libraries in 1962 and 1979; and an archive of scores and recordings of works composed by distinguished North Texas alumni Don Gillis and Julia Smith.

The Center for Experimental Music and Intermedia (CEMI) provides extensive instructional, research and performance facilities for composers, researchers, and presenters of computer music and intermedia compositions. CEMI presents an annual concert series featuring computer music and intermedia works created at the University of North Texas and at other computer music studios throughout the world, and hosts professional composers who work in residence in the CEMI facilities. The CEMI studios are utilized for electroacoustic composition, sound diffusion, real-time interactive system design, intermedia composition, software synthesis, digital signal processing, algorithmic composition, computer video production, and other computer media applications.

Adjacent to the Music Library is the Audio-Center, containing more than 150,000 musical recordings. The Audio-Center provides modern facilities for both group and individual listening.

The College of Music also houses the Texas Center for Music and Medicine, a joint program with the UNT Health Science Center at Fort Worth. It includes a research lab equipped with state-of-the-art technologies for the study of the physiology of music performance.

Research

Research in the College of Music is conducted in the areas of musicology, music theory, music education, music medicine, composition, performance practice and music medicine. Independent investigation and creative problem solving also play large roles in the processes of composition and performance study, where the products of research are musical compositions and performance interpretations.

Within the College of Music, *Theoria*, a scholarly journal, emanates from the division of music history, theory and ethnomusicology. The Center for Schenkerian Studies publishes *The Journal of Schenkerian Studies*. In addition, *Harmonia* is edited and published by the Graduate Association of Musicologists and Theorists. Research funding is received from the National Endowment for the Arts, the National Endowment for the Humanities and faculty research grants.

Research projects in music education range from empirical description and experimentation to historical and philosophical inquiries. Faculty research activities include investigating musical perception and attitudes, preferences, abilities, aptitude, skill development, teacher behavior in classroom and rehearsal, and aspects of professional socialization. Music education faculty hold national and international offices in prestigious professional organizations and serve as editorial readers for leading refereed journals in the field. Ongoing research is supported by faculty research grants and sponsorship of professional organizations.

In music medicine, projects focus on the study of bio-mechanics of performance, hearing loss prevention and mental health issues, and are funded in part by grants from the National Endowment for the Arts and the National Academy of Recording Arts and Sciences.

In composition, creative projects are supported by faculty research funds and other sources, including commissions and awards from a variety of private and public agencies and foundations. The activities of the faculty and students encompass virtually every aspect of contemporary music. Grants from the National Endowment for the Arts and UNT faculty research funds provide optimal real-time computer systems in the Center for Experimental Music and Intermedia. Orchestral, wind, choral and chamber music by faculty and students is performed by UNT ensembles, as well as music involving the integration of computer music into intermedia composition.

Computer-assisted instruction (CAI) plays a major role in the research and teaching activities in music theory. Graduate students operate the CAI Lab, which provides programmed instruction and drills in music fundamentals for undergraduate theory students, and together with theory faculty develop further software applications for the program.

The *International Trombone Association Journal* and *The Clarinet* (quarterly journal of the International Clarinet Society) are edited by faculty members in the College of Music.

Admission Requirements

Applicants for any graduate degree program must meet the requirements for the preceding degree in the same major field as listed in the *Undergraduate Catalog*. Applicants may be required to take specified courses to remove deficiencies as determined by the transcript evaluation. Students may enroll in courses to remove deficiencies concurrently with those graduate degree courses for which they are eligible. Deficiencies may be removed only by (1) enrolling in and passing an equivalent course at UNT or another accredited university, (2) submitting evidence of achievement, or (3) passing a proficiency examination, approved by the program area. To prepare for such examinations, students may audit courses, subject to university regulations (see *Undergraduate Catalog*). The auditing of a course alone may not be the basis for removing a deficiency. In addition, the College of Music may request the applicant to validate any course work or skill by examination or performance.

Graduate Placement Examination

All new graduate students in music must take a placement examination covering theory, history of music and music literature. The examination will be given each term/semester. See the Academic Calendar at the front of this catalog. (Description, schedule and information concerning the use of test results are available in the Office of Graduate Studies in Music.)

New graduate students in piano also must take a placement examination in piano literature. The results are used for advisory and remedial purposes.

Transfer Credit

Use of transfer credit toward graduate degrees is subject to policies stated in the Master's Degree Requirements and Doctoral Degree Requirements sections of this catalog and must be approved by the appropriate graduate music committee and the dean of the Toulouse School of Graduate Studies.

Exceptions to Policies

Exceptions to stated policies may be made only when approved by the appropriate graduate committee,

the dean of the College of Music and, where appropriate, the dean of the School of Graduate Studies.

Degree Plan

By the completion of 12 hours of study, the graduate student should select an advisory committee (at least three members) and file a degree plan. The degree plan, listing all courses to be required for the degree, must be approved by the student's major professor (and advisory committee members in the case of the doctorate) and submitted to the director of graduate studies in music. Forms for this purpose are available in the College of Music graduate studies office, Music Building, Room 249.

All changes in the degree plan must be submitted in writing, approved by the major professor and the degree committee chair, and filed with the graduate studies office. Degree requirements are determined by the *Graduate Catalog* in force at the time the degree plan is approved by the graduate dean. Degree plans may not be filed in the term/semester a student plans to graduate.

Master of Music Degree Program

Students seeking the master's degree should consult the director of graduate studies in music in preparing a tentative program to meet the degree requirements and in selecting a major professor and an advisory committee. By the completion of 12 semester hours, the student should file a degree plan and request an advisory committee.

Degree Requirements

Requirements for each degree program are outlined below. The Office of Graduate Studies in Music provides complete information concerning procedures, administrative details and the GRE score requirement for individual programs. Students applying for the MM in performance may satisfy the GRE requirement by completing an on-campus writing sample. Details are available in the Office of Graduate Studies.

Before the degree is granted, the candidate must pass a final comprehensive examination — either oral, written or both — covering the field of concentration and, if applicable, the thesis or research problem. The examination may be taken no more than three times.

Participation in Performance Laboratories

Participation in two terms/semesters of laboratory or ensemble is recommended for all master's degree students. Students who major in band or orchestral instruments are required to participate, with or without credit, in two terms/semesters of laboratory; one term/semester is required for voice majors. Those who major in music education are required to participate in two terms/semesters of

either laboratory or ensemble, with or without credit. Participation is not required for doctoral students except when advised by the major professor. Laboratories are a cappella choir, chamber choir, concert choir, men's chorus, women's chorus, grand chorus, symphony orchestra, wind ensemble, symphonic band, concert band, marching band, jazz labs and accompanying. To meet this requirement, students must choose laboratories approved by the major advisers. Credit may be earned by enrolling in MULB 5171-5175 (1 semester hour each).

Ensembles available for graduate student participation are: opera theater, collegium musicum, chamber orchestra, wind ensemble, brass choir, trumpet choir, horn choir, trombone choir, tuba-euphonium ensemble, flute choir, percussion ensemble, steel drum band, marimba ensemble, African ensemble, gamelan ensemble, electric and acoustic guitar ensembles, NOVA ensemble, and smaller string, woodwind, brass, harp and jazz chamber ensembles.

Lecture Attendance Requirement

Each graduate student with a declared major in musicology or music theory is expected to attend all lectures presented in the Division of Music History, Theory, and Ethnomusicology Lecture Series during each long term/semester of full-time enrollment (9 hours). Each graduate student with a declared major in composition is expected to attend all Music Now events during each long term/semester of full-time enrollment.

Major in Theory

The student must submit GRE subject (advanced) test scores in music to the Office of Graduate Studies in Music before the degree plan is filed.

The Master of Music with a major in theory offers two options: (1) the traditional 32-hour degree with thesis, and (2) a 36-hour degree without thesis but with specialization in computer education and its application to theory pedagogy.

The following courses are required for a 32-hour program of study.

- MUMH 5010, Introduction to Research in Music, 3 hours
- MUTH 5080, Pedagogy of Theory, 3 hours
- MUTH 5090, Problems in Pedagogy of Theory, 3 hours
- MUTH 5355, Analytical Techniques I, 3 hours
- MUTH 5360, Analytical Techniques II, 3 hours
- MUTH 5370, Analytical Techniques III, 3 hours
- MUTH 5400, Invertible Counterpoint and Fugue, or MUTH 5470, Advanced Schenkerian Analysis, 3 hours
- Elective in music history or literature, 3 hours
- MUGC 5950, Thesis, 6 hours
- Piano, 2 hours

In place of MUGC 5950, Thesis (6 hours), and piano requirements, the program will accept the following courses for a 36-hour program.

- CECS 5020, Computers in Education, 3 hours
- CECS 5110, Multimedia in Technology Applications, 3 hours
- MUTH 5720, Computer-Assisted Instruction in Music, 3 hours
- MUGC 5930, Research Problem in Lieu of Thesis, 3 hours

Additional Requirements

Before applying for graduation in this degree, the student must pass an examination testing reading knowledge of one foreign language. The choice of language is to be approved by the candidate's degree committee.

Evidence of Satisfactory Progress

Students must maintain a minimum overall B average and must have no grade lower than B in courses in the major field. Students not meeting this standard will be placed on probation for one term/semester. Students not fulfilling the conditions of probation will be dismissed from the program by majority vote of the faculty.

Major in Composition

Application Procedure

Applicants to any of the graduate programs in composition must submit a portfolio to the Director of Graduate Studies in Music by the *first Monday in February* to be considered for acceptance in the following academic year. The portfolio must include:

1. **Scores** of three representative works;
2. **Recordings** (CD, VHS video, and/or DVD only) of three representative works, at least two of which should correspond with the scores submitted; if VHS videos are submitted, please include only one work per tape. MIDI realizations may be used in exceptional cases.
3. A current **resume** or **curriculum vita** that includes the following:
 - a. a list of original **compositions**, including title, medium, date composed, and duration;
 - b. a list of **performances** of original compositions, including date, location, and performers; and
 - c. a list of prizes, commissions, grants, or other honors recently received.
4. Complete academic **transcripts** (photocopies acceptable for program use);
5. Official **GRE scores** (photocopies acceptable for program use);
6. **Letters of recommendation** from three persons qualified to evaluate the applicant's accomplishments and merits;

7. **Writing samples** (e.g., research paper, thesis, etc.);
 8. **Personal statement** that addresses the following:
 - a. compositional aesthetics and influences;
 - b. statement of purpose (Why are you interested in pursuing graduate studies at the University of North Texas?); and
 - c. long-range professional goals.
- 6 hours selected from MUCP 5320, 5460, 5590 and MUJS 5540
 - 3 hours selected from MUTH 5355, 5360 and 5370; students with a related field in music theory may substitute an MUCP 5000-level course for this requirement.
 - Introduction to Research in Music, MUMH 5010, 3 hours

General Application Information

1. Please note that application to the Toulouse School of Graduate Studies is separate from application to the College of Music, and that *admission to the Graduate School does not imply acceptance to the composition program*.
2. Applications are ordinarily reviewed during the spring semester only; applications received in the fall semester (for admission in the spring) may be considered only in exceptional cases.
3. Applicants may be interviewed by telephone or asked to audition in person prior to acceptance.
4. Applicants will be notified by early April concerning the status of their applications.
5. Applicants are expected to submit GRE scores at the time of application in order to be considered for graduate studies in composition;
 - a. The minimum acceptable score on the analytical writing portion of the GRE is 4.0, and is a condition of acceptance.
 - b. In exceptional cases, students may be admitted provisionally pending successful completion of the GRE analytical writing exam by the end of the first semester of enrollment. However, all applicants accepted to the program must have at least attempted the GRE Analytical Writing exam prior to enrollment in graduate courses.
 - c. The Graduate Preparation Course (GPC), provided for international students by the Intensive English Language Institute, will not be accepted as substitute for the GRE requirement.
6. International applicants in composition must be provisionally accepted to the program prior to beginning study at the Intensive English Language Institute (IELI).
7. No performance audition is required in order to apply to the graduate program in composition.

Degree Requirements

The following courses are required for completion of the 36-hour program in composition:

Major Field, 27 Hours

- Master's Composition, MUCP 5190, 6 hours
- Thesis, MUGC 5950, 6 hours (no concurrent enrollment in MUCP 5190 and MUGC 5950)
- 3 hours selected from MUCP 5680 and 5690

Related Field, 9 Hours (select one)

1. **Computer Music.** Required: 9 hours of MUCP 5690.
2. **Conducting.** Required: 9 hours selected from MUAG 5000, 5800 and 5850, and MUED 5300.
3. **Jazz Studies.** Required: MUJS 5470 and 5480; 3 hours selected from MUJS 5440, 5450, 5760 and 5780.
4. **Music and Medicine.** Required: MUAG 5450, MUGC 5910 (with medical school faculty) and one elective consistent with student area of interest in music and medicine.
5. **Musicology.** Required: 9 hours selected from MUMH 5020, 5110, 5120, 5150, 5330, 5340, 5550 and 5711 or additional courses with approval of the division chair.
6. **Music Education.** Required: 9 hours selected from MUED 5100, 5300, 5500, 5510, 5520, 6430 and 6470.
7. **Performance.** Required: audition; MUAC 5500 level, 6 hours; and 3 hours selected from MUAG 5640, 5650, 5800 and 5850, MUEN 5040, 5530-5540, 5602, 5605, 5611, 5616, 5617, 5621, 5624 and 5625, MUCM 5500 level, and MULB 5170 level.
8. **Theory.** Required: 9 hours selected from MUTH 5080, 5090, 5355, 5360, 5370, 5400 and 5470.

Additional Requirements

1. Each graduate student with a declared major in composition is expected to attend division events, including concerts, reading sessions, seminars and Music Now presentations during every term/semester of full-time enrollment.
2. Composition majors are expected to present at least two public performances or readings of original compositions each year; these may include *Spectrum* programs, CEMI *Centerpieces*, reading sessions, student recitals or any off-campus venues.
3. Graduate composition majors are to maintain a portfolio that includes completed works, recordings and a record of works and performances. This portfolio will be submitted to the composition faculty for evaluation at the composition jury each spring term/semester.
4. All graduate composition majors not enrolled in thesis or dissertation will be reviewed by the composition faculty each spring semester. New master's composition majors enrolled in MUCP 5180 must

pass a jury before the composition faculty prior to enrollment in MUCP 5190.

5. Students may enroll in no more than one composition lesson each term/semester.
6. Students may take composition lessons during the summer, but must enroll for both sessions in order for the credits to be counted toward the degree.
7. A grade of B or better is required in courses used to satisfy the MM degree. Students not meeting this standard will be placed on probation for one term/semester. Students not fulfilling the conditions of probation will be dismissed from the program by majority vote of the composition faculty. Additional jury reviews may be called for at any time during the course of study in order to monitor the student's progress.
8. Graduate degree candidates in composition are not to take more than a total of 3 credit hours of thesis or dissertation per term/semester. Any request for an exception to the policy must be made in writing and approved by the composition faculty.

Additional information, including a complete listing of all composition program policies and procedures, is included in the *Composition Student Handbook*, which may be obtained by contacting the composition division or downloaded from the composition division web site: www.music.unt.edu/comp/.

Major in Musicology

The following courses are required for the 32-hour program of study.

- MUMH 5711, Seminar in Musicology, 3 hours
- MUTH 5360, Analytical Techniques II (1700–1900), 3 hours
- 12 hours selected from MUMH 5110, 5120, 5150, 5330, 5340 and 5550 or additional courses with approval of the division chair, and MUTH 5355
- MUMH 5010, Introduction to Research in Music, 3 hours
- MUMH 5020, Introduction to Musicology, 3 hours
- MUEN 5530-5540, Collegium Musicum, 2 hours
- MUGC 5950, Master's Thesis, 6 hours

Additional Requirements

Before applying for graduation in this degree, the student must pass an examination testing reading knowledge of German.

Early Music Performance Concentration

Entrance requirements are the same as the current requirements for the MM in Musicology with the addition of an audition (equivalent of senior recital at BM concentration level)

- MUMH 5711, Seminar in Musicology, 3 hours
- 3 hours selected from MUTH 5355 or MUTH 5360

- 9 hours selected from MUMH 5150, 5330, 5340 or 5550
- MUMH 5010, Introduction to Research in Music, 3 hours
- MUMH 5020, Introduction to Musicology, 3 hours.
- MUEN 5530-5540, Collegium Musicum, 3 hours
- MUGC 5950, Thesis/recital, 3 hours
- Knowledge of German
- MUAC 5532, Early Instruments, 6 hours. (3 semesters at concentration level)
- MUMH 5XXX, Improvisation and Ornamentation, 3 hours

Ethnomusicology Track

- MUET 5030, Music Cultures of the World, 3 hours
- MUET 5220, Ethnomusicology Field and Research Methods, 3 hours
- MUET 5230, Ethnomusicology Transcription and Analysis, 3 hours
- 6 hours selected from MUET 5050, 5060, 5070
- ANTH 5010, Anthropological Thought and Praxis I, 3 hours. Prerequisite: ANTH 5200, Seminar in Cultural Anthropology, or equivalent.

Evidence of Satisfactory Progress

Students must maintain a minimum overall B average and must have no grade lower than B in courses in the major field. Students not meeting this standard will be placed on probation for one term/semester. Students not fulfilling the conditions of probation will be dismissed from the program by majority vote of the faculty.

Major in Jazz Studies

To be admitted to the program, each applicant must (1) play an audition that demonstrates technical and improvisational skill to the level of MUJS 3360 and (2) submit manuscripts that demonstrate arranging skill equivalent to the level of MUJS 4610.

At the end of each long term/semester, the student's work will be reviewed for continuance in the program. This review will consist either of an improvisation skill jury, or an evaluation of written projects.

The following courses are required for the 32-hour program of study:

Major Field, 20 Hours

- MUJS 5440, 5450, 5470 and 5780; MUCM 5550 (1 hour, jazz chamber music); MULB 5174 (1 hour, jazz lab band in a long term/semester, excluding reading band); 3 hours selected from MUJS 5490 and 5760; and 3 hours selected from MUJS 5480

Related Field, 9 Hours (select one)

1. **Accompanying.** Required: audition; 9 hours selected from MUAG 5260, 5261, 5270 and 5271 or additional courses in consultation with the coordinator of piano collaboration.

2. **Composition.** Application procedures and prerequisites are included in the *Composition Student Handbook*, which may be obtained by contacting the composition division or downloaded from the composition division web site: www.music.unt.edu/comp/. Required: MUCP 5180 (3–6 hours); 3–6 hours of MUCP 5000-level courses selected in consultation with the related field adviser.
3. **Conducting.** Required: 9 hours selected from MUAG 5000, 5800, 5850 and MUED 5300.
4. **Music Education.** Required: 9 hours selected from MUED 5100, 5300, 5500, 5510, 5520, 5880, 6430 and 6470.
5. **Musicology.** Required: 9 hours selected from MUMH 5020, 5110, 5120, 5150, 5330, 5340, 5550, and 5711; MUET 5210.
6. **Opera.** Required: MUMH 5110 and 6 hours selected from MUAG 5640, 5650 and 5660.
7. **Performance.** Required: audition; MUAC 5500 level (6 hours); 3 hours from MUAG 5360, MUMH 5550, graduate chamber music (MUCM 5500 level or MUEN 5600 level) or music laboratory (MULB 5170 level) other than MULB 5174.
8. **Theory.** Required: 9 hours selected from MUTH 5080, 5090, 5355, 5360, 5370, 5400 and 5470.
9. **Vocal Pedagogy.** Required: MUAG 5600; two courses from MUAG 5610, SPSH 6660, 6710, 5810 and 5870.
10. **Accompanying.** Required: audition; 9 hours selected from MUAG 5260, 5261, 5270 and 5271 or additional courses in consultation with the coordinator of piano collaboration.
11. **Ethnomusicology.** Required: MUET 5030; and either 6 hours selected from MUET 5210 (recommended), 5040, 5050, 5060, 5070, 5220, 5230, or 3 hours selected from that list and 3 hours of ensembles from African Ensemble, South Indian Ensemble, Balinese Gamelan, Afro-Cuban and Brazilian Ensemble.

Electives, 3 Hours

May be in or outside music, but not in the student's related field. If performance is the related field, electives taken in performance will not count for this requirement.

Additional Requirements

In addition to the final comprehensive examination, the student must present a public performance as a final project. The program may demonstrate either improvisational or arranging skills, dependent upon the student's emphasis in the program. All final projects must be approved in advance by the MM in jazz studies committee. If necessary, upon recommendation of the faculty, additional performance may be required.

Major in Performance

Performance majors may specialize in piano, collaborative piano, organ, harpsichord, voice, conducting or any of the following orchestral instruments: violin, viola, cello, double bass, flute, oboe, clarinet, saxophone, bassoon, French horn, trumpet, trombone, euphonium, tuba, percussion, harp, guitar or woodwinds.

The programs are described below. At the point of graduation, students pursuing the performance major will be listed as having a specialization in the appropriate area.

All master's degree performance majors must include on their degree plan a related field of not fewer than 9 hours selected from the options list below.

1. **Accompanying.** Required: audition; 9 hours selected from MUAG 5260, 5261, 5270 and 5271 or additional courses in consultation with the coordinator of piano collaboration.
2. **Composition.** Application procedures and prerequisites are included in the *Composition Student Handbook*, which may be obtained by contacting the composition division or downloaded from the composition division web site: www.music.unt.edu/comp/. Required: MUCP 5180 (3–6 hours); 3–6 hours of MUCP 5000-level courses selected in consultation with the related field adviser.
3. **Conducting.** (Not open as a related field to those with a specialization in conducting.) Required: audition, 9 hours selected from MUAG 5000, 5800 and 5850, and MUED 5300.
4. **Jazz Studies.** Required: MUJS 5470 and 5480; 3 hours selected from MUJS 5440, 5450, 5760 and 5780.
5. **Music and Medicine.** Required: MUAG 5450, MUGC 5910 (with medical school faculty) and one elective consistent with student area of interest in music and medicine.
6. **Music Education.**
 - For those with a specialization in conducting. Required: 9 hours selected from MUED 5100, 5300, 5500, 5510, 5520, 5880, 6430 and 6470.
 - For all other specializations in performance. Required: 9 hours selected from MUED 5100, 5120, 5300, 5500, 5510, 5520, and 6430.
7. **Musicology.** Required: 9 hours selected from MUMH 5020, 5110, 5120, 5150, 5330, 5340, 5550, and 5711; MUET 5210; or additional courses with approval of the division chair.
8. **Opera.** Required: MUMH 5110 and 6 hours selected from MUAG 5640, 5650 and 5660.
9. **Theory.** Required: 9 hours selected from MUTH 5080, 5090, 5355, 5360, 5370, 5400 and 5470.
10. **Vocal Pedagogy.** Required: MUAG 5600; two courses from MUAG 5610, SPSH 5810, 5870, 6660 or 6710.

11. **Applied Music.** (Available only to those with a conducting specialization.) Required: audition; MUAC 5500 level (6 hours); 3 hours from MUAG 5640, 5650 and 5850, MUEN 5040, 5530-5540, 5602, 5605, 5611, 5616, 5617, 5621, 5624 and 5625, MUCM 5500 level, and MULB 5170 level.

Specialization in Piano

To be admitted to the 32-hour program, each applicant must show proof of having played a solo senior recital or its equivalent. Also, each applicant must play for the piano faculty an audition consisting of three major works: (1) a contrapuntal work, preferably 18th century; (2) a sonata or concerto; and (3) any other standard work. All three are to be performed from memory.

After qualification, each term/semester's repertoire shall include a virtuoso etude. Each candidate also must present a standard concerto and at least one non-traditional 20th-century work during the course of study.

The following courses are required.

- Piano, 10 hours
- Secondary applied music, 2 hours
- MUCM 5500 level or MUEN 5600 level, chamber music, or MUEN 5530-5540, Collegium Musicum, 2 hours
- MUMH 5010, Introduction to Research in Music, 3 hours

Related Field, 9 Hours

Select an area from those listed above.

Electives, 6 Hours

Six hours of electives are required for the major in piano.

Additional Requirements

In addition, the following repertoire must be memorized. The repertoire must consist of material that the candidate has studied since becoming a graduate student.

1. Two complete programs, one of which must be presented publicly. The program for the public recital must be approved in advance by the piano faculty.
2. One complete concerto drawn from the standard repertoire.
3. Attendance at all area departmental recitals is required. Unexcused absences will result in the final course grade being lowered. For additional information, consult the divisional and area handbooks.

Specialization in Collaborative Piano

To be admitted to this 37-hour program, each applicant must first meet the entrance requirements for the specialization in piano by playing for the piano faculty an audition consisting of three major

works: (1) a prelude and fugue or complete suite of Bach, (2) a sonata of Mozart, Haydn, or Beethoven, and (3) another work of contrasting style. All three are to be performed from memory. Upon acceptance by the piano faculty, the applicant must then perform an audition of collaborative works, consisting of one movement of a major sonata or other large work involving piano with another instrument, and a 15-minute vocal program representing art songs and operatic repertoire. Consult with the coordinator of collaborative piano in order to arrange for this audition.

Applied Piano, 6 hours

- MUAM 5501 (2 terms/semesters)

Collaborative Piano

Nine hours from the following courses, based on the chosen emphasis (MUAG 5261 and 5271 may be repeated):

- MUAG 5260, Piano Accompanying (Vocal)
- MUAG 5261, Advanced Piano Accompanying (Vocal)
- MUAG 5270, Piano Collaboration (Instrumental)
- MUAG 5271, Advanced Piano Collaboration (Instrumental)

Secondary Instrument, 2 hours

Chamber Music/Ensembles, 2 hours

Two terms/semesters chosen from the following 1-credit courses:

- MUCM 5510, String Chamber Music
- MUCM 5520, Woodwind Chamber Music
- MUCM 5530, Brass Chamber Music
- MUEN 5040, Graduate Opera Theater
- MUEN 5585, Nova Ensemble

Music History, 3 hours

- MUMH 5010, Introduction to Research in Music

Related Field, 9 hours

German, Italian and/or French recommended for vocal option. For other options, select an area from those listed above.

Electives, 6 hours

Suggested courses for electives: MUAG 5210, Studies in Vocal Literature; advanced language or diction study; or additional performance study.

Additional Requirements

Two recital programs representing the candidate's chosen emphasis must be presented.

Specialization in Organ

Before becoming a candidate for this degree, the applicant who is not a graduate of UNT in organ

must perform before a faculty jury a 30-minute program representative of undergraduate repertoire.

The following courses are required for the 32-hour program.

- Organ, 10 hours
- Secondary applied music, 2 hours
- MUCM 5500 level; or MUEN 5600 level, or MUEN 5530-5540, Collegium Musicum, 2 hours
- MUMH 5010, Introduction to Research in Music, 3 hours
- Three hours selected from MUMH 5110, 5120, 5330, 5340 and 5711 (This requirement is waived for those electing musicology as a related field.)

Related Field, 9 Hours

Select an area from those listed above. For those electing conducting as a related field, MUAG 5810 is required and may count toward the 9-hour related field course options.

Electives, 6 Hours

Three to six hours of electives also are required to complete the 32-hour specialization in organ.

Additional Requirements

All students must demonstrate proficiency at a level equivalent to the Associate Examination of the American Guild of Organists.

In addition, two complete recital programs must be prepared, one of which must be presented publicly. The repertoire for both programs must consist of material that the candidate has studied since becoming a graduate student. The program for the public recital must be approved in advance by the organ faculty.

Performance majors are required to play one major work from memory on the degree recital.

Attendance at all area departmental recitals is required. Unexcused absences will result in the final course grade being lowered. For additional information, consult the divisional and area handbooks.

Specialization in Harpsichord

To be admitted to the program, each applicant must show proof of having played a solo senior recital or its equivalent. The applicant who is not a graduate of UNT in harpsichord must perform before the faculty a 30-minute program representative of undergraduate repertoire.

The following courses are required for the 32-hour program.

- Harpsichord, 10 hours
- Secondary applied music, 2 hours
- MUEN 5530-5540, 3 hours
- MUAC 5531, Keyboard Continuo Playing, 2 hours. May be fulfilled by participation in MUEN 5530-5540.
- MUMH 5010, Introduction to Research in Music, 3 hours

- Three hours selected from MUMH 5000-level courses (waived if musicology is the related field) or MUTH 5000-level courses (waived if theory is the related field)

Related Field, 9 hours

Select an area from those listed above.

Additional Requirements

Two complete recital programs must be prepared, one of which must be presented publicly. The repertoire for both programs must consist of material that the candidate has studied since becoming a graduate student. The harpsichord and early music faculty must approve the program for the public recital in advance. The student is required to play 10 to 15 minutes of the recital from memory.

The student must demonstrate proficiency at playing from figured bass pieces equivalent to compositions of Telemann, Quantz, Corelli, Handel and Marais. Thirty minutes of ensemble music for which the student plays continuo must be presented publicly. It is expected that this requirement will be completed in Collegium performances.

Specialization in Voice

Students wishing to specialize in voice must meet the following requirements to qualify for admission to candidacy.

1. A repertoire as extensive as that required for the Bachelor of Music degree with a major in voice at UNT.
2. Performance from memory before a faculty jury a program of at least 20 minutes that includes selections in Italian, French, German and English, as well as an aria from an opera and one from an oratorio. Detailed instructions for the audition should be obtained from the chair of the division of vocal studies prior to or at registration. Students will be required to take without graduate credit the undergraduate diction courses in those languages in which they do not demonstrate proficiency.

The following courses are required for the 32-hour program.

- Voice, 8 hours
- Secondary applied music, 2 hours
- MULB 5100 level, music laboratory, 1 hour
- MUEN 5040, Graduate Opera Theatre, 2 hours
- MUMH 5010, Introduction to Research in Music, 3 hours

Related Field, 9 Hours

Select an area from those listed above.

Electives, 7 Hours

Seven hours of electives also are required for the major in voice.

Additional Requirements

Students are required to take jury examinations in each term/semester of enrollment in voice until the recital is successfully completed.

During the final term/semester of graduate study, the student will be required to present one complete recital from memory. Any recital being presented as a partial fulfillment of the requirements for a master's degree in voice must be approved both in program content and in performance quality by the voice faculty. The performance of the recital must be approved at a hearing by the voice faculty at least three weeks prior to the date of public presentation.

Specialization in an Orchestral Instrument

Before being admitted to graduate study with a specialization in an orchestral instrument, candidates will perform before a faculty jury an audition of repertoire appropriate to the area and degree.

The following courses are required for the 32-hour program.

- Major instrument, 9 hours
- MUCM 5500 level or MUEN 5600 level, Chamber Music; and/or MUEN 5530-5540, Collegium Musicum, 2 hours
- MUMH 5010, Introduction to Research in Music, 3 hours

Related Field, 9 Hours

Select an area from those listed above.

Electives, 9 Hours

Nine hours of electives also are required for the specialization in an orchestral instrument.

Additional Requirements

In addition, all majors will perform a complete recital in public, consisting of music that the candidate has studied since becoming a graduate student at the University of North Texas. The repertoire for this recital will be determined by the student's major teacher, subject to approval of the area faculty. The recital performance will be passed upon by a majority of those faculty members in attendance from the student's area of performance.

Specialization in Woodwinds

To be admitted to the program the applicant must pass auditions on the principal and two other woodwind instruments.

The following courses are required for the 32-hour program.

- Principal woodwind instrument, 6 hours
- Four other woodwinds, 2 hours in each, total 8 hours
- MUCM (5500 level) or MUEN 5625, chamber music; and/or MUEN 5530-5540, Collegium Musicum, 2 hours

- MUMH 5010, Introduction to Research in Music, 3 hours

Related Field, 9 Hours

Select an area from those listed above.

Electives, 4 Hours

Four hours of electives also are required for the specialization in woodwinds.

Additional Requirements

Graduation requirements include relevant minimum standards for the principal instrument and the four other woodwinds. The candidate will perform a recital on the principal instrument and two of the other woodwind instruments to complete the program. Appropriate minimum standards and requirements on the remaining two woodwind instruments will be met in jury examination. Repertoire and memorization requirements will be determined by the student's teacher, subject to approval of the woodwind faculty. Recital performance will be passed upon by a majority of the woodwind faculty members in attendance.

Specialization in Conducting

Applicants for the Master of Music degree in performance with a specialization in conducting must hold the Bachelor of Music degree or its equivalent. This program is open to a limited number of students based on the availability of conducting opportunities. Applicants are requested to submit a complete dossier, including transcripts, curriculum vitae, letters of recommendation, programs, tapes of conducting performances (and solo performances, if desired) and a statement of career objectives. A videotape of the candidate conducting, although not required, is desirable. All materials should be submitted by February 15 to the director of graduate studies of the College of Music.

To be admitted to a graduate program in conducting, applicants will be auditioned before the conducting faculty with a university ensemble appropriate to the major area of emphasis (band, choir, opera or orchestra).

The following courses are required for the 36-hour program.

- MUMH 5010, Introduction to Research in Music, 3 hours
- 12 hours selected from MUAM 5533, MUED 5300, and MUAG 5000, 5800 and 5850
- 6 hours selected from MUAG 5810, 5860, and MUMH 5110 and 5120
- 6 hours selected from MUMH 6520, 6530 and MUTH 5360 and 5370

Related Field, 9 Hours

Select an area from those listed above.

Additional Requirements

Students with a related field in applied music are required to take jury examinations each term/semester and pass a final proficiency hearing after completion of the required hours in applied music.

Candidates will conduct a public performance in their primary area. This recital will be evaluated by at least three members of the conducting faculty.

Major in Music Education

Undergraduate prerequisites include a minimum of 14 hours of theory, 12 hours of music history and/or literature, two terms/semesters of conducting and 12 hours of methods courses in music.

The following courses are required for the 32-hour program:

Music Education, 12 Hours

1. MUED 5280, Admission Seminar, 3 hours. Required of all students and to be taken the first time the seminar is scheduled after the student begins work toward this degree.
2. MUED 5120, Applied Research in Music Education, 3 hours.
3. Professional specialization courses selected by the student, 6 hours.

Minor or Related Field, 6 Hours

Six hours in a minor or related field are required for the major in music education (MUMH 5330 and 5340 do not apply).

Electives, 3 Hours

Three hours of electives also are required for the music education major.

Applied Music, 5 Hours

1. Principal performance, 3 hours.
2. Secondary performance, 2 hours.

Thesis, 6 Hours

The student must complete 6 hours in MUGC 5950, Master's Thesis.

Additional Requirements

The final comprehensive examination given at the end of the degree work will include but not be limited to questions on the thesis.

Master of Music Education

The Master of Music Education degree is designed to focus on teaching skills, school administrative and leadership skills, and current trends in the field of music education.

Two basic differences exist between the Master of Music Education, defined here, and the Master of Music (music education). These differences are (1) the

Master of Music Education requires 36 hours of course work while the Master of Music degree requires 32; and (2) the Master of Music Education degree does not include a thesis.

Undergraduate prerequisites include a minimum of 14 hours of theory, 12 hours of music history or literature, two terms/semesters of conducting and 12 hours of methods courses in music.

Degree Requirements

The following courses are required for the 36-hour program:

Music Education, 12 Hours

1. MUED 5280, Admission Seminar, 3 hours. Required of all students and to be taken the first time the seminar is scheduled after the student begins work toward this degree.
2. MUED 5120, Applied Research in Music Education, 3 hours.
3. Professional specialization courses selected by the student, 6 hours.

Non-Music Education Courses in Music, 6 Hours

Selected by the student from music history, music theory, composition, jazz studies or other.

Electives, 18 Hours

These courses, selected by the student, should include courses in the special field area and/or music education. They may include up to 8 hours in applied music and up to two laboratories or ensembles. May include non-music courses.

Additional Requirements

Comprehensive examinations covering general knowledge in the field of music (General Field) and knowledge in an area of specialization within music education (Special Field) are given in two written tests (two days) and, after the successful completion of the written portions, in an oral examination.

Master of Arts

Major in Music

MUMH 5010, Introduction to Research in Music (3 hours), is required for the 33-hour program.

Field of Concentration, 9 Hours (select one)

1. **Applied Music.** Required: audition; 4 hours (two terms/semesters minimum) in principal applied area; 2 hours in secondary applied area; 3 hours in related academic literature or pedagogy courses and graduate ensembles.
2. **Composition.** Application procedures and prerequisites are included in the *Composition Student Handbook*, which may be obtained by contacting the composition division or downloaded from the

composition division web site: www.music.unt.edu/comp/. Required: MUCP 5180 (3–6 hours); 3–6 hours of MUCP 5000-level courses selected in consultation with the related field adviser.

3. **Musicology.** Required: MUMH 5020; 6 hours selected from MUMH 5110, 5120, 5150, 5330, 5340, 5550 and 5711 or additional courses with approval of the division chair.

4. **Theory.** Required: 9 hours selected from MUTH 5080, 5090, 5355, 5360, 5370 and 5400.

Minor Field, 6 Hours

Six hours in one field outside of music are required.

Electives, 9 Hours

Not to exceed 3 hours in applied music for the field of concentration in musicology, theory or composition; no applied music electives if the field of concentration is in applied music.

Thesis, 6 Hours

The student must complete 6 hours in MUGC 5950, Master's Thesis, and produce a written academic thesis.

Additional Requirements

Before applying for graduation the student must pass an examination testing reading knowledge of either German or French.

Doctor of Musical Arts

The Doctor of Musical Arts degree is offered with majors in performance (including conducting) and composition, with related fields in accompanying, composition, conducting, jazz studies, music education, musicology, music theory, performance or vocal pedagogy. The degree requires a minimum of three years of work represented by at least 90 hours beyond the bachelor's degree. In addition to the first 30 hours, or the equivalent of the master's degree in the major field, the program for the degree includes a minimum of 60 hours.

The minimum residence requirement for performance and composition students consists of two consecutive long terms/semesters (fall and the following spring, or spring and the following fall) with a minimum load of 9 hours each term/semester. The minimum residency requirement for conducting students is four consecutive long terms/semesters with a minimum load of 9 hours each term/semester. Conducting students in wind studies may satisfy the residency requirements by enrolling in two summer sessions, two long terms/semesters and two more summer sessions, taken consecutively.

Acceptance into the Doctor of Musical Arts program involves the following steps:

1. Apply for admission to the university through the Robert B. Toulouse School of Graduate Studies

(an evaluation of student's transcripts will determine deficiencies in course work).

2. Submit an acceptable score on the general aptitude test of the Graduate Record Examination (GRE).

Contact the College of Music or the Toulouse School of Graduate Studies for standardized admission test requirements. Students applying for the DMA in performance may satisfy the GRE requirement with an on-campus writing sample. Details are available from the Graduate Office in the College of Music.

3. Be accepted by the College of Music to do doctoral level work.

4. Attend all orientation sessions scheduled by the director of graduate studies in music.

5. Take the Graduate Placement Examinations for doctoral students given by the College of Music (courses assigned as the result of the GPE must be completed within one calendar year).

6. Be accepted to a specific degree program by audition (for performance and conducting majors) or portfolio evaluation (for composition majors).

When all of these steps are successfully completed, the student will be considered fully admitted to the degree program.

Application Procedures – Performance (including Conducting)

1. The applicant for admission to the Doctor of Musical Arts program with a major in performance will submit the following to the director of graduate studies in music:

- a. complete academic transcripts;
- b. the names and addresses of three persons qualified to evaluate the applicant's accomplishments and merits and to recommend advanced study;
- c. tape recordings of performances;
- d. a list of repertoire performed; and
- e. programs.

This dossier should be received in the Office of Graduate Studies of the College of Music at least six weeks before the intended date of enrollment.

2. An admission audition for all applicants for the major in performance must be scheduled and performed by the third class day of the first term/semester of enrollment (second class day of a summer term/semester). It should be understood that no applied music courses count toward degree requirements until the applicant has passed the admission audition. Audition repertoire in the various fields of performance and scheduling procedures are available from the Office of Graduate Studies in Music.

3. The DMA program in conducting prepares highly qualified conductors in one of three areas: choral studies, orchestral studies or wind studies. It is

expected that the applicant will have had significant and extensive experience as a conductor and teacher. The prerequisites for admission to the conducting degree program include: both master's and bachelor's degrees in music from an accredited institution (exceptions may be made for students with degrees in other fields if equivalent musical training can be demonstrated); a mastery of advanced conducting techniques gained through experience beyond the training level; a well-developed level of musicianship and listenership; familiarity with a substantial repertoire of music; at least five years teaching experience or the demonstrated equivalent.

The admission process for conducting applicants will consist of two stages. The materials outlined below are to be submitted by February 1 to the director of graduate studies of the College of Music.

- a. The written application materials:
 - A resume providing complete information concerning the musical training and experience of the applicant.
 - Lists representing the following: works the applicant has studied; works the applicant is prepared to conduct; and, works the applicant has previously conducted.
 - A written analysis of a movement from a major tonal work on the applicant's repertoire list.
 - A face-to-the-camera, high-quality videotape cassette (VHS format) of the applicant conducting a rehearsal and interacting with an ensemble he or she regularly conducts.
 - A good-quality audio and a face-to-the-camera video tape cassette (VHS format) of a performance conducted by the applicant.
 - Statement of career objectives.
 - Three letters of recommendation.
 - Three names of people, including their addresses and phone numbers, willing to speak to the candidates musical abilities (they may be the same people who send the letters of recommendation).
 - b. The audition/interview process:
 - On the basis of the written applicants and tape evaluations, selected choral studies and orchestral studies conducting applicants will be asked to come to the campus for an audition and interview at their own expense. A limited number of applicants in the wind studies area will be invited to attend the North Texas Conductors Collegium in the summer as an auditionee, also at their own expense.
 - No applied music courses count toward degree requirements until the applicant has passed the admission audition.
 - In the audition and interview, those conducting applicants who demonstrate the attainment of a requisite level of technical skill, musicianship and knowledge of basic repertoire will be considered for admission into the program.
- Applicants must contact individual areas of specialization (i.e., choral studies, orchestral studies, wind studies) to obtain more detailed admission and audition requirements.

Application Procedures – Composition

Applicants to any of the graduate programs in composition must submit a portfolio to the Director of Graduate Studies in Music by the first Monday in February to be considered for acceptance in the following academic year. The portfolio must include:

1. **Scores** of three representative works
2. **Recordings** (CD, VHS video, and/or DVD only) of three representative works, at least two of which should correspond with the scores submitted; if VHS videos are submitted, please include only one work per tape. MIDI realizations may be used in exceptional cases.
3. A current **resume** or **curriculum vita** that includes the following:
 - a. a list of original **compositions**, including title, medium, date composed and duration;
 - b. a list of **performances** of original compositions, including date, location and performers; and
 - c. a list of prizes, commissions, grants or other honors recently received.
4. Complete academic **transcripts** (photocopies acceptable).
5. Official **GRE scores** (photocopies acceptable)
6. **Letters of recommendation** from three persons qualified to evaluate the applicant's accomplishments and merits
7. **Writing samples** (e.g., research paper, thesis, etc.)
8. **Personal statement** that addresses the following:
 - a. compositional aesthetics and influences;
 - b. statement of purpose (Why are you interested in pursuing graduate studies at the University of North Texas?); and
 - c. long-range professional goals.

General Application Information

1. Please note that application to the Toulouse School of Graduate Studies is separate from application to the College of Music, and that *admission to the Graduate School does not imply acceptance to the composition program.*
2. Applications are ordinarily reviewed during the spring semester only; applications received in the fall semester (for admission in the spring) may be considered only in exceptional cases.

3. Applicants are interviewed by telephone or asked to audition in person prior to acceptance.
4. Applicants will be notified by early April concerning the status of their applications.
5. Applicants are expected to submit GRE scores at the time of application in order to be considered for graduate studies in composition:
 - a. The minimum acceptable score on the analytical writing portion of the GRE is 4.0 and is a condition of acceptance.
 - b. In exception cases, students may be admitted provisionally pending successful completion of the GRE analytical writing exam by the end of the first semester of enrollment. However, all applicants accepted to the program must have at least attempted the GRE analytical writing exam prior to enrollment in graduate courses.
 - c. The Graduate Preparation Course (GPC), provided for international students by the Intensive English Language Institute, will not be accepted as a substitute for the GRE requirement.
6. International applicants in composition must be provisionally accepted to the program prior to beginning study at the Intensive English Language Institute (IELI).
7. No performance audition is required in order to apply to the graduate program in composition.

Degree Requirements

In addition to course requirements (listed below), each applicant for the Doctor of Musical Arts degree must meet the following requirements.

Language Requirement

One language, other than the native language or English, chosen to fulfill this requirement will be selected in consultation with the major professor and the student's advisory committee. Specific requirements regarding the Foreign Language Proficiency Examination may be found under "Foreign Language or Tool-Subject Requirement" in the Doctoral Degree Requirements section of this catalog. It is recommended that the language requirement be met within the first three terms/semesters of graduate work to facilitate research. Hours earned do not count toward the degree.

Introduction to Research

It is assumed that an entering DMA student will have had an introduction to research course at the master's level (please see the graduate catalog for course description). If not, the student will be required to take Introduction to Research in Music (MUMH 5010), no later than the second term/semester of graduate work to facilitate research. Hours earned do not count toward the degree.

The Advisory Committee

The student's advisory committee will include a member who has written a dissertation or similar doctoral document (other than the DMA chairperson) and is made up of:

1. Major professor;
2. Minor professor (related field representative); and
3. Committee member.

The advisory committee should be selected and approved by the time the student has completed 12 hours of course work.

Placement Examinations

Following the DMA placement examinations in musicology and music theory (administered during orientation week), the student will be counseled by the major professor or major area designate. In conjunction with the faculties administering the examinations, the major adviser will develop a plan, if needed, to satisfy deficiencies (not to exceed 6 credits of musicology and 6 credits of music theory). Classes taken as a result of the placement examinations may be counted toward the degree in either the related field or as electives, but not in the musicology/music theory component.

Related Field Course Requirements

All DMA degree candidates must include on their degree plan a related field of not fewer than 12 hours selected from the options listed below.

1. **Accompanying.** Required: audition and MUAG 5260 and 5270 (6 hours); 6 hours selected from MUAG 6280, 6290 and 6370. Recommended elective: MUAG 5210 (may be repeated for credit).
2. **Composition.** Required: MUCP 5180 (6 hours); select 6 hours from 5000- to 6000-level courses, in consultation with the related field adviser.
3. **Conducting.** Pursuing a related field in conducting requires that the candidate apply to and be accepted by one of three areas: choral conducting, orchestral conducting or wind conducting. The candidate's curriculum in the related field will be determined by the director of the discipline chosen. Choral conducting: 12 hours selected from MUAG 5000, 5800, 5810 and 6850; Orchestral conducting: MUAG 6900, Special Problems: Orchestral Conducting (3 hours); MUAG 6850 (9 hours); Wind conducting: MUGC 5890 (3 hours); MUAG 5850, 5860 and 6850 (9 hours).
4. **Early Music.** Required: audition and 6 hours selected from MUMH 6520, 6530 and 6540 or 3 hours selected from MUMH 6520, 6530 and 6540 and 3 hours selected from MUMH 5610 and 6610; 4 hours of applied instruction in appropriate field (period instrument or voice); 2 semester hours participation in Collegium.

5. **Jazz Studies.** Required: audition and MUJS 5470 and 5480 (6 hours); 3 hours selected from MUJS 5440, 5450, 5490, 5760, 5780 and 5900-5910; 3 hours of participation in jazz ensembles and applied study.
6. **Music and Medicine.** Required: MUAG 5450 and 6450; 6 hours selected from 5000- and 6000-level courses in areas outside of music in consultation with the related field adviser.
7. **Music Education.** Required: MUED 5120 and 5280 (6 hours); 6 hours selected from any MUED 5000- or 6000-level course. **Note:** If the student has taken either MUED 5120 or 5280 at UNT or the equivalent at another university (to be determined by the coordinator of the music education master's or doctoral program), the student may choose two other MUED 5000- or 6000-level courses.
8. **Music Theory.** Required: 12 hours selected from MUTH 5080, 5090, 5355, 5360, 5370, 5400 and 6680. Classes taken as a result of the placement examinations may be counted toward the degree in either the related field or as electives, but not in the musicology/music theory component. The classes used to fulfill the music theory component may not be duplicated in the related field (if music theory is the related field of choice).
The theory component for all students in the DMA program comprises two of the analytical techniques courses (MUTH 5355, 5360 and 5370). Up to 6 hours of this requirement may be substituted if, upon review of the transcript, the student has completed with a grade of B or better, graduate-level analysis courses with similar historical coverage at either this or another institution. In this case, other graduate music theory courses (5000- or 6000-level) may be taken to meet the theory requirement.
9. **Musicology.** Required: MUMH 5020 (3 hours); 9 hours selected from any of the following (6 hours must be at the 6000 level) MUMH 5110, 5120, 5150, 5330, 5340, 5550, 5711, 6000, 6010, 6020, 6030, 6080, 6160, 6530, 6540, 6740, 6750, 6760 and 6770. Classes taken as a result of the placement examinations may be counted toward the degree in either the related field or as electives, but not in the musicology/music theory component. The classes used to fulfill the musicology component may not be duplicated in the related field (if musicology is the related field of choice).
10. **Performance.** Required: audition and 12 hours selected of appropriate courses from MUAC (6500 level), and other courses in literature and pedagogy. (Open only to those with a major in conducting or composition.)
11. **Sacred Music.** 12 hours from MUAG 5285, 5286, 5287, 5288.
12. **Vocal Pedagogy.** Required: 12 hours selected from SPHS 5775, 5810, 5870 and 5900, and MUAG 5600, 5610 and 6900. Courses from both departments must be included.

Written Qualifying Examinations, Research Project and Oral Qualifying Examination

General Information

Each student is required to pass written examinations in his or her major field (6 hours) and chosen related field (3 hours). These examinations are evaluated by the professors submitting questions, as well as others who may be designated by the major adviser. The qualifying examinations measure a broad knowledge of musical study. They are designed to establish the student's ability to engage both in scholarly research and in professional work in the major area supported by a complete musical comprehension and a broad perspective.

The student may take the qualifying examinations when the following conditions have been met: (a) all deficiencies have been removed, and (b) 30 hours of course work beyond the master's degree have been completed.

Performance majors

Following successful completion of the written qualifying examinations, the student is required to complete an assigned written research project and pass a two-hour oral examination, both administered and evaluated by the student's advisory committee and other professors as specified by the Doctor of Musical Arts Committee.

When all three parts of the examination have been completed successfully, the student is recommended for admission to candidacy for the degree. The examination may be taken no more than three times.

Before enrolling for MUGC 6951, the dissertation credits, the candidate must first (a) be accepted into the program by audition and (b) file a degree plan. The language requirement must be met before enrolling in the lecture recital (or one of the other options).

After passing the qualifying examinations and having been admitted to candidacy, the student must maintain continuous dissertation enrollment (MUGC 6951-6954) each long term and at least one summer semester each year until the dissertation has been completed and accepted by the graduate dean.

Composition majors

At the beginning of the final semester of required course work, each doctoral student in composition must inform the composition division chair and the graduate advisory committee of his or her intention to take the doctoral qualifying examinations during the following semester.

1. Students must select an examination committee, which creates and grades the *major field* portion of the written qualifying examination. This committee consists of:
 - a. the major professor,
 - b. a composition faculty representative (either another member of the student's advisory committee or the composition division chair),

- c. a music theory faculty representative (may be an advisory committee member), and
- d. a music history faculty representative (may be an advisory committee member).

It is expected that students will consult with all members of the examination committee while preparing for the qualifying examinations.

2. In preparation for the qualifying examinations, the student will study 12 works from a repertoire list that must be approved by the examination committee by the beginning of the semester in which the qualifying examinations are administered.
3. The qualifying examination consists of both written and oral components. The written qualifying examination is administered during two consecutive days and includes the major field (9 hours) and minor/related field (3 hours) examinations.
4. Once the student has successfully completed all portions of the written qualifying examination, he or she may schedule the oral qualifying examination with the combined advisory and examination committees. This two-hour examination is intended to be a synthesis of all areas of the written qualifying examinations, including a discussion of works from the repertoire list, as well as a comprehensive examination over material covered during graduate course work and general knowledge commensurate with the degree. It is expected that any weaknesses evident in the written qualifying examination will be more thoroughly explored during the oral examination.

Further information pertaining to the doctoral qualifying examinations is included in the *Composition Student Handbook*, which may be obtained by contacting the composition division or downloaded from the composition division web site: www.music.unt.edu/comp/.

Final Comprehensive Oral Examination and Dissertation Defense

Upon completion of the dissertation credits and the qualifying examinations, the student is required to pass a two-hour final comprehensive oral examination and dissertation defense of his/her project before the advisory committee.

Grades

A grade of B or better is required in courses used to satisfy DMA degree requirements.

Major Field in Performance

Last 60 Hours of Study

1. Major performance, 16 hours.*
2. Literature in the major field, 6 hours.
3. **Dissertation:** 12 hours, the written documentation should be at a level acceptable for juried publication. Choose one of the following:

Option I: 3 recitals (3 credits each); 1 lecture-recital (50–60 minutes/3 credits); and performance and critical essay (25 page minimum);

Option II: 3 recitals (3 credits each); 1 lecture (50–60 minutes/3 credits); and thesis (30 page minimum); or

Option III: 3 recitals (3 credits each); 1 written project (3 credits); and doctoral document (100 page minimum).

Related Field, 12 Hours

Choose from one of the following areas of study: accompanying, composition, conducting, jazz studies, music education, music theory or musicology. Specific graduate courses to be determined in consultation with the chair of the related area. See “Related Field Course Requirements,” above, for the specific related field requirements.

Musicology/Music Theory Component

1. **Musicology.** 6 hours: specific courses (6000-level) to be determined in consultation with the major professor.
2. **Music Theory.** 6 hours: The theory component for all students in the DMA program includes two of the analytical techniques courses (MUTH 5355, 5360 and 5370). Up to 6 hours of this requirement may be substituted if, upon review of the transcript, the student has completed with a grade of B or better, graduate-level analysis courses with similar historical coverage at either this or another institution. In this case, other graduate music theory courses (5000- or 6000-level) may be taken to meet the theory requirement.

Electives (2 hours)

Choose from any field in music or outside of music. Two credits at the 5000 level may be applied to the category.

*Additional Requirements for Specialization in Woodwinds

If a student chooses a major in woodwinds instead of a major in a single woodwind instrument, the requirements are 12 hours in the principal instrument, 6 hours in two other instruments and 4 hours in the two remaining instruments, for a total of 22 hours in performance.

*Additional Requirements for Specialization in Piano, Organ or Harpsichord

Attendance at all area departmental recitals is required. Unexcused absences will result in the final course grade being lowered. For additional information, consult the divisional and area handbooks.

Major Field in Performance (Conducting)

Last 60 Hours of Study

1. **Advanced conducting, applied conducting and/or score reading and interpretation** (enrollment in one

of the above is required every term/semester in residence, maximum of 12 hours).

2. **Choral Literature/Symphonic Literature/Wind Literature**, 6 hours (6 required in major area, 3 additional recommended).

3. **Dissertation**, 12 hours: the written documentation should be at a level acceptable for juried publication. Conductors can receive dissertation credit for concerts conducted in the first term/semester of residence, if approved by the major professor and the DMA committee. Recital requirements can be fulfilled by compiling numerous appearances on video tape throughout the candidate's residency, or by giving full-length concerts as approved by the major professor. Choose one of the following:

Option I: 3 recitals (3 credits each); 1 lecture-recital (50–60 minutes/3 credits); and performance and critical essay (25 page minimum);

Option II: 3 recitals (3 credits each); 1 lecture (50–60 minutes/3 credits); and thesis (30 page minimum); or

Option III: 3 recitals (3 credits each); 1 written project (3 credits); and doctoral document (100 page minimum).

Related Field, 12 Hours

Choose from one of the following areas of study: accompanying, composition, jazz studies, music education, music theory, musicology or performance. Specific graduate courses to be determined in consultation with the chair of the related area. See "Related Field Course Requirements," above, for the specific related field requirements.

Musicology/Music Theory Component

1. **Musicology**, 6 hours, specific courses (6000-level) to be determined in consultation with the major professor.

2. **Music Theory**, 6 hours, The theory component for all students in the DMA program includes two of the analytical techniques courses (MUTH 5355, 5360 and 5370). Up to 6 hours of this requirement may be substituted if, upon review of the transcript, the student has completed with a grade of B or better, graduate-level analysis courses with similar historical coverage at either this or another institution. In this case, other graduate music theory courses (5000- or 6000-level) may be taken to meet the theory requirement.

Electives (6 hours)

Choose from any field in music or outside of music. Six credits of 5000-level course work may be applied to the category. Courses taken to fulfill the requirement need not be limited to one area of study.

Major in Composition

The following courses are required for the last 66 hours of study:

Major Field, 39 hours (select one of two options):

1. General Program in Composition:
 - a. Composition, MUCP 6190, 12 hours.
 - b. 3 hours selected from MUCP 5680, 5690, and 6200.
 - c. 12 hours selected from MUCP 5580, 5590 and 6465; up to 6 hours from MUTH 6680 or MUMH 6770 may be applied toward this requirement, to be determined in consultation with the degree adviser.
 - d. Dissertation, MUGC 6950, 12 hours: the dissertation consists of two parts, (a) an original composition of appropriate scope, quality and originality and (b) a critical essay on the original composition. The content of the dissertation will be determined in consultation with the degree adviser and must be approved by the composition faculty.
2. Specialization Program in Computer Music:
 - a. Computer music, 15 hours: no more than 9 hours of MUCP 5690, and at least 6 hours of MUCP 6200.
 - b. Composition, MUCP 6190, 6 hours.
 - c. 6 hours selected from MUCP 5580, 5590 and 6465; 3 hours from MUTH 6680 or MUMH 6770 may be applied toward this requirement, to be determined in consultation with the degree adviser.
 - d. Dissertation, MUGC 6950, 12 hours: the dissertation consists of three parts, (a) an original composition of appropriate scope, quality and originality that includes a significant computer music or intermedia component; documentation may include a score, software, program code, audio and/or video records; (b) a critical essay on the original composition; and (c) a public presentation of the complete work. The content of the dissertation will be determined in consultation with the degree adviser and must be approved by the composition faculty.

Musicology/Music Theory Component

- **Musicology**, 6 hours: specific courses (6000-level) to be determined in consultation with the degree adviser.
- **Music Theory**, 6 hours: selected from MUTH 5355, 5360 and 5370; other MUTH courses may be substituted if, upon review of the transcript, it is determined that the student has satisfactorily completed commensurate graduate-level analytical techniques course(s).

Related or Minor Field, 12 hours (select one)

Related Field: Choose from one of the following areas of study: accompanying, conducting, jazz studies, music education, music theory, music medicine, musicology or performance. Specific courses to be determined in consultation with the chair of the related field. (See "Related Field Course Requirements" above.)

Minor Field: Choose a minor field of study outside of music in consultation with the major professor. Select appropriate courses in that field in consultation with a minor field adviser.

Electives, 3 hours

Choose from any field in music or outside of music. Three credits at the 5000 level may be applied to the category. Courses taken to fulfill the requirement need not be limited to one area of study.

Additional Requirements

1. Each graduate student with a declared major in composition is expected to attend division events, including concerts, reading sessions, seminars and Music Now presentations during every term/semester of full-time enrollment.
2. Composition majors are expected to present at least two public performances or readings of original compositions each year; these may include *Spectrum* programs, CEMI *Centerpieces*, reading sessions, student recitals, or any off-campus venues.
3. Graduate composition majors are to maintain a portfolio that includes completed works, recordings, and a record of works and performances. This portfolio will be submitted to the composition faculty for evaluation at the portfolio review each spring term/semester.
4. All graduate composition majors not enrolled in thesis or dissertation will be reviewed by the composition faculty each spring semester. New doctoral composition majors enrolled in MUCP 5180 must pass a jury before the composition faculty prior to enrollment in MUCP 6190.
5. Students may enroll in no more than one composition lesson each term/semester.
6. Students may take composition lessons during the summer, but must enroll for both sessions in order for the credits to be counted toward the degree.
7. A grade of B or better is required in courses used to satisfy the DMA degree. Students not meeting this standard will be placed on probation for one term/semester. Students not fulfilling the conditions of probation will be dismissed from the program by majority vote of the composition faculty. Additional jury reviews may be called for at any time during the course of study in order to monitor the student's progress.
8. Graduate degree candidates in composition are not to take more than a total of 3 credit hours of thesis or dissertation per term/semester. Any request for an exception to the policy must be made in writing and approved by the composition faculty.

Additional information, including a complete listing of all composition program policies and procedures, is included in the *Composition Student Handbook*, which may be obtained by contacting the composition division or downloaded from the composition division web site: www.music.unt.edu/comp/.

Doctor of Philosophy

The Doctor of Philosophy degree with a major in musicology or theory requires a minimum of

90 semester hours beyond the bachelor's degree. Of these 90 hours, at least 60 must be taken at UNT. Thirty hours may be transferred from other institutions at the discretion of the PhD committee of the College of Music. A master's degree from an accredited institution usually is accepted for the first 30 hours. The minimum residence requirement consists of two consecutive long terms/semesters (fall and the following spring, or spring and the following fall) with a minimum load of 9 hours each term/semester.

It should be understood that the Doctor of Philosophy degree cannot be earned by routine work alone, regardless of accuracy or amount. The degree will be conferred, rather, on the basis of mastery of the field of music as a whole and of proven ability either to plan and carry out an original investigation (in musicology or theory) or to do creative work (in composition) with distinction.

Degree Requirements

In addition to course requirements (see below), each applicant for the Doctor of Philosophy degree must meet the following requirements.

Language Requirements

Proficiency in two languages, German and a second language subject to the approval of the PhD committee, is required. These requirements may be satisfied in one of the following ways.

1. Passing the UNT Reading Proficiency Examination (a two-semester accelerated course to prepare students for this examination is offered by the language department).
2. Two years of a foreign language with at least a B average for all four terms/semesters. Those opting to satisfy the language requirement in this way must complete the course work no earlier than three years prior to enrollment in the program and no later than the term/semester prior to attempting the qualifying examinations.

Music History and Theory Lecture Series Attendance

Each graduate student with a declared major in musicology or music theory is expected to attend all lectures presented in the Division of Music History and Theory Lecture Series during each long term/semester of full-time enrollment (9 hours).

Pre-Qualifying Examinations

A keyboard examination and a contrapuntal problem examination must be taken and passed by the applicant before taking the qualifying examination.

1. The keyboard examination includes reading from open score (e.g., string quartet). It must be taken at the time of the first registration and may be retaken no more than two times. In lieu of taking the examination, the applicant may take the course MUTH 5110 (Score Reading at the Keyboard) with a grade of B or better.

2. The contrapuntal problem examination must be taken and passed before taking the qualifying examination. It may be taken no more than three times. In lieu of taking the examination, the applicant may take the counterpoint course, MUTH 5400, with a grade of B or better.

Qualifying Examination

The qualifying examination is a general review covering all fields of music study, with particular emphasis on the student's major field. The examination may not be taken until the language and pre-qualifying examination requirements are satisfied, or before all course deficiencies have been removed. Qualifying examinations are administered in November and March of each year.

Candidates should be prepared to spend three full days on the written examination outlined below. An oral examination is subsequently scheduled.

Dissertation

The culmination of the doctoral work is a dissertation of appropriate scope, quality and originality. The topic will be presented to the PhD committee of the College of Music after successful completion of the qualifying examination. At this time, upon being admitted to candidacy, the student must maintain continuous dissertation enrollment (MUGC 6950) each long term/semester until the dissertation has been completed and accepted by the graduate dean. Registration in at least one summer session is required if the student is using university facilities and/or faculty time during that summer session. The final copies of the dissertation must be placed in the hands of the major professor at least two weeks before the scheduled oral examination in any given term/semester. The oral examination will be scheduled after the dissertation has been completed and accepted by the major professor, and before the last day for filing dissertations in the office of the graduate dean, as announced in the Academic Calendar.

Final Oral Comprehensive Examination

The final oral comprehensive examination is administered after the dissertation has been completed and accepted, and includes the following.

1. General bibliography (principal books and periodicals in the main field of music).
2. Music (familiarity with the principal classics in chamber music, orchestral, piano and vocal repertoire, including solo, opera, oratorio and choral music).
3. The special field(s) or the dissertation to include:
 - a. the special bibliography of these fields; and
 - b. questions on the candidate's information derived from sources in the requisite foreign languages.

The final oral examination may be taken no more than three times.

Major in Musicology

Admission to the degree program occurs in two steps: (1) acceptance into the doctoral program in musicology and permission to enroll in course work; and (2) admission to doctoral candidacy.

Acceptance and Permission to Enroll

To obtain permission to enroll in course work, the student must:

- a. Apply for admission to UNT through the graduate school (an evaluation of the student's transcripts will determine deficiencies in course work);
- b. Submit an acceptable score on the general aptitude test of the Graduate Record Examination (GRE); contact the College of Music or the Toulouse School of Graduate Studies for standardized admission test requirements;
- c. Attend all orientation sessions scheduled by the director of graduate studies in music;
- d. Take the Graduate Placement Examination (GPE) given by the College of Music; and
- e. Complete the appropriate deficiency courses the first term/semester they are offered.

Application for acceptance into the doctoral program is made by a letter submitted to the coordinator of musicology. The following supplementary materials should accompany this letter:

- a. An academic resume;
- b. Three letters of recommendation by persons who know the applicant personally, professionally and academically; and
- c. A portfolio that provides evidence of professional activity.

Upon completion of 12 hours in the doctoral program in musicology, the student will select a major professor and a doctoral (dissertation) committee under whose counsel a degree plan is devised and submitted to the graduate school.

Admission to Doctoral Candidacy

To obtain admission to doctoral candidacy in musicology, the student must pass qualifying examinations. These examinations seek to confirm that the student has a broad knowledge in and about the fields of musicology and music theory, and detailed knowledge in and about selected areas within those fields. Specific policies and procedures related to the qualifying examinations are the responsibility of the College of Music PhD committee.

Evidence of Satisfactory Progress

Students must maintain a minimum overall B average and must have no grade lower than B in courses in the major field. Students not meeting this standard will be placed on probation. Students not

fulfilling the conditions of probation may be dismissed from the program.

The Dissertation Defense

The dissertation defense is a hearing during which the candidate will summarize and defend the completed dissertation before the doctoral committee and any other interested faculty, students and members of the academic community. The successful defense is indicated by the signatures of all members of the doctoral committee.

Last 60 Hours of Study

- MUMH 5711, Seminar in Musicology, 6 hours
- MUMH 6000-6010, Notation, 6 hours; 12 hours to be selected from MUMH 6020, 6030, 6740, 6750, 6760 and 6770; 6 hours to be selected from MUMH 6080 and 6160, MUTH 6660 and 6670
- Electives in the field of music, 3–6 hours
- MUEN 5530-5540, Collegium Musicum, 3 hours
- Electives in a minor field, 12 hours, or in related fields, 9–12 hours
- MUGC 6950, Dissertation, 12 hours

Major in Theory

This curriculum provides opportunities for students to engage in study that will prepare them for professional careers in theoretical research and in teaching. Students are required to engage in considerable research activity in the seminar environment, as well as to develop the pedagogical skills necessary to communicate results of that research.

Admission to the degree program occurs in three steps: (1) permission to enroll in course work; (2) acceptance into the doctoral program in music theory; and (3) admission to doctoral candidacy.

Permission to Enroll in Course Work

To obtain permission to enroll in course work, the student must:

1. apply for admission to UNT through the graduate school (an evaluation of the student's transcript will determine deficiencies in course work);
2. submit an acceptable score on the general aptitude test (verbal and quantitative) of the Graduate Record Examination (GRE);
3. take the GRE subject (advanced) test in music;
4. attend all orientation sessions scheduled by the director of graduate studies in music;
5. take the Graduate Placement Examination (GPE) given by the College of Music; and
6. complete the appropriate deficiency courses the first term/semester they are offered.

Acceptance into the Doctoral Program

To be accepted into the doctoral program in music theory, the student must have completed the following:

1. all deficiency courses;
2. 12 hours of 5000- and/or 6000-level music theory and/or musicology courses;
3. the PhD keyboard examination; and
4. the PhD language requirement.

Application for acceptance into the doctoral program is made by a letter submitted to the coordinator of music theory. The following supplementary materials should accompany this letter:

1. an academic resume;
2. three letters of recommendation by persons who know the applicant personally, professionally and academically; and
3. a portfolio that provides evidence of professional activity.

Upon acceptance into the doctoral program in music theory, the student will select a major professor and a doctoral (dissertation) committee under whose counsel a degree plan is devised and submitted to the graduate school.

Admission to Doctoral Candidacy

To obtain admission to doctoral candidacy in music theory, the student must pass qualifying examinations. These examinations seek to confirm that the student has a broad knowledge in and about the fields of music theory and musicology, and in-depth knowledge in and about selected areas within those fields. Specific policies and procedures related to the qualifying examinations are the responsibility of the College of Music PhD committee.

Evidence of Satisfactory Progress

Students must maintain a minimum overall B average and must have no grade lower than B in courses in the major field. Students not meeting this standard will be placed on probation. Students not fulfilling the conditions of probation may be dismissed from the program.

The Dissertation Defense

The dissertation defense is a hearing during which the candidate will present a one-hour lecture and defend the completed dissertation before the doctoral committee and any other interested faculty, students and members of the academic community. The successful defense is indicated by the signatures of all members of the doctoral committee.

Last 60 Hours of Study

- MUTH 6660-6670, History of Music Theory, 6 hours
- MUTH 6680, Proseminar in Music Theory, 12 hours, four 3-hour seminars
- MUTH 6700-6710, Analytical Systems I and II, 6 hours
- 3 hours from MUMH 6000-6010, Notation
- 3 hours selected from MUCP 6200, and MUMH 6020, 6030, 6740, 6750, 6760 and 6770

- Electives, 18 hours (see below)
- MUGC 6950, Dissertation, 12 hours

Elective credits may be used to establish a minor or related field if the student so desires. Nine credit hours of electives must have a direct bearing on the dissertation topic. If degree credit is to be given for applied music, the student must pass the master's-level entrance audition in performance prior to enrollment for these credit hours. The student who does not pass, or take, the audition may study applied music, but this credit will not count toward the 60 hours required for the degree.

Doctor of Philosophy in Music Education

The Doctor of Philosophy in music education degree is an individualized, research-oriented program that allows for optional emphasis in a number of areas of specialization within music education. The degree is offered by the Federation of North Texas Area Universities and conferred by UNT, with the other participating institutions offering appropriate staff, courses, equipment and libraries.

Degree Requirements

The program for the degree includes a minimum of 60 hours in addition to the master's degree, or its equivalent, or at least 90 hours beyond the bachelor's degree.

For a detailed description of the program, including areas of specialization, admission and acceptance procedures, course deficiencies, qualifying examinations and dissertation requirements, please consult the *Bulletin for the Doctor of Philosophy Degree in Music Education*, available through the graduate office of the College of Music or through administrative assistant for the division of music education.

Course Requirements

Beyond the fulfillment of declared deficiencies in course work and of tool requirements, minimum course requirements for the 60-hour program are as follows.

Required, 8 Hours

1. MUED 6440, Systematic Measurement of Music Behaviors, 3 hours.
2. MUED 6480, Doctoral Seminar in Music Education, two terms/semesters, 1 hour each.
3. MUED 6520, Analysis and Criticism of Research Studies, 3 hours.

Selected Courses, 15 Hours

Select 15 hours from the following:

- MUED 5100, Music Supervision, 3 hours
- MUED 5500, History of Music Education in the United States, 3 hours
- MUED 5510, Philosophical Foundations and Principles of Music Teaching, 3 hours

- MUED 5520, Psychology of Music, 3 hours
- MUED 6430, Principles of Music Learning, 3 hours
- MUED 6470, Sociology of Music, 3 hours
- MUED 6490, Comparative Music Education, 3 hours
- MUED 6580, College Teaching of Music Courses, 3 hours
- MUED 6620, Music, the Arts and the Humanities, 3 hours

Statistics, 6 Hours

- EPSY 5210, Educational Statistics, 3 hours
- EDER 6010, Statistics for Educational Research, 3 hours

Electives, 19 Hours

Three hours must be a dissertation-related tool course: 9 hours must be in an academic cognate area; 7 hours may be at the discretion of the student and adviser. All students are encouraged to register for doctoral seminar (MUED 6480) every long term/semester. Beyond the 2 required hours, any additional doctoral seminar credits may be counted as elective hours.

Dissertation, 12 Hours

The student must complete 12 hours in MUGC 6950, Dissertation.

Special Program Requirements

Acceptance into the Degree Program

Acceptance into the degree program occurs in three steps: (1) permission to enroll in course work; (2) acceptance into the doctoral program in music education; and (3) admission to doctoral candidacy at UNT.

To obtain permission to enroll in course work, the student must:

1. apply for admission to UNT through the School of Graduate Studies (an evaluation of the student's transcript will determine deficiencies in course work); and
2. submit an acceptable score on the general aptitude test of the Graduate Record Examination (GRE); contact the College of Music or the Toulouse School of Graduate Studies for standardized admission test requirements.

After arriving on campus for the first semester's work, the student must:

1. attend all orientation sessions scheduled by the director of graduate studies in music;
2. take the Graduate Placement Examination (GPE) given by the College of Music; and
3. enroll in at least 4 hours of courses in music education.

To be accepted into the doctoral program in music education, the student must have taken a minimum of 12 hours of music education courses. The application for acceptance is directed to the coordinator of the music education PhD program and should contain:

1. a cover letter, and
2. an academic resume.

In making the acceptance decision, the music education graduate committee will take all available information about the student under advisement. Success in course work alone does not guarantee acceptance to the program.

Upon acceptance to the doctoral program in music education, the student will choose a doctoral (dissertation) committee under whose counsel a degree plan is devised and submitted to the School of Graduate Studies. The qualifying examinations cannot be taken unless the approved degree plan is on file in the School of Graduate Studies.

Residence

A doctoral student is officially in residence when carrying at least 9 hours of course work in each of two consecutive long terms/semesters.

Students who acquire residency toward another doctorate in the College of Music may, with the approval of the music education graduate committee, receive favorable consideration for residency in music education. Each case will be considered on an individual basis.

Teaching Experience

A record of three years of successful teaching experience is required before the doctoral degree can be conferred. It is highly recommended that this experience be gained at the public school level before the student has completed all course work.

Demonstration of Professional Activity

Either prior to or shortly after the qualifying examinations, the student must demonstrate specific professional skills within a chosen area of specialization. This demonstration may consist of a workshop/clinic on a given subject, presented at a conference or in a pre-approved UNT College of Music course, or completion and submission of an article to a refereed journal.

Qualifying Examinations

To obtain admission to doctoral candidacy at UNT, the student will take the qualifying examinations upon the completion of most of the course work. The examinations seek to confirm that the student has:

1. **a broad knowledge** in and about the field of music education as defined in the *Bulletin for the Doctor of Philosophy Degree in Music Education*, and
2. **in-depth knowledge** in and about selected areas within that field.

All examinations seek to assess the prospective candidate's ability (a) to organize facts and content knowledge into meaningful information; (b) to generalize from, draw conclusions about and interpret that information; and (c) to speak and write in the exacting style of the scholar.

The examinations are usually given in November, March and June. The student must pass at least 50 percent of the examinations (B minus or better). If less than

50 percent is passed, all portions of the examination must be retaken; if more than 50 percent is passed, only those portions must be repeated in which the student scored below B minus. No more than two repeats are allowed. Oral examinations may be requested by the music education graduate committee in cases for which a repeat of the written examinations is not feasible.

Dissertation

After the successful completion of all portions of the qualifying examinations and upon being admitted to candidacy by the dean of the School of Graduate Studies, the student must maintain continuous enrollment in MUGC 6950 each long term/semester until the dissertation has been completed, defended and accepted by the graduate dean.

The dissertation process is divided into two steps:

1. preparing and defending the dissertation proposal; and
2. writing and defending the dissertation.

The Proposal and Its Defense

The proposal is a public hearing during which the candidate presents to the doctoral committee in writing the purpose, research questions and proposed methodology of the dissertation. The proposal serves as a structural model for the dissertation itself and usually will be from 30 to 50 pages in length.

The Dissertation Defense and Final Steps in Completing All Requirements

The dissertation defense is a public hearing during which the candidate will defend the completed dissertation before the doctoral committee and any other interested students, faculty and members of the community. The dissertation must follow the UNT rules for preparing theses.

The successful defense is indicated by the signatures of all members of the doctoral committee. The approved dissertation must be in the office of the dean of the College of Music at least a week before the deadline for filing theses and dissertations in the graduate office of the university. An abstract of the dissertation must be prepared and submitted with one original and two copies of the complete work to the School of Graduate Studies for final reading and approval.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

College of Public Affairs and Community Service

Main Office
Chilton Hall, Room 302
P.O. Box 311340
Denton, TX 76203-1340
(940) 565-2239
Web site: www.pacs.unt.edu

David W. Hartman, Dean

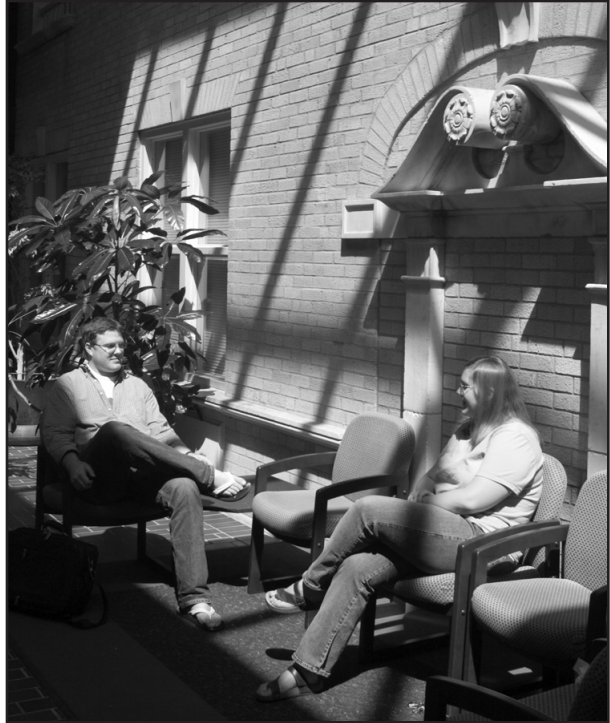
Linda L. Holloway, Associate Dean
Ann T. Jordan, Associate Dean

The College of Public Affairs and Community Service is composed of academic departments and institutes, which house graduate and undergraduate programs, as well as research institutes and centers that support the college's mission. The college offers programs leading to the following graduate degrees:

- Master of Science with majors in applied anthropology, applied economics, long-term care, senior housing and aging services, behavior analysis, criminal justice, general studies in aging, rehabilitation counseling, and sociology;
- Master of Arts with majors in applied anthropology, long-term care, senior housing and aging services, general studies in aging, and sociology
- Master of Public Administration; and
- Doctor of Philosophy with majors in applied gerontology, public administration and management, and sociology.

The faculty of the school also participates in the master's degree program with a major in interdisciplinary studies offered through the School of Graduate Studies. See the Toulouse School of Graduate Studies section of this catalog for more information about this degree program.

The Department of Rehabilitation, Social Work and Addictions offers a special certificate program



for rehabilitation facility administrators, workshop managers and supervisors that focuses on administrative, management and supervisory principles and practices. The department participates in the PhD program in counseling.

The Department of Behavior Analysis offers a sequence of four applied behavior analysis courses on early intensive intervention for children with autism and participates in the PhD program in information science.

The Department of Criminal Justice participates in the PhD program in information science.

The school offers a 12-hour online graduate academic certificate in volunteer and community resource management.

Students in other fields may minor in any of the College of Public Affairs and Community Service degree programs with consent of the minor professor.

Center for Public Service

Main Office
Chilton Hall, 121
P.O. Box 310919
Denton, TX 76203-0919
(940) 565-4863
Web site: www.cps.unt.edu

Stanley R. Ingman, Director

The mission of the Center for Public Service is to promote the service, public affairs, public interest and applied research goals of the College of Public Affairs and Community Service and the university. Students, faculty and staff are involved in a variety of research and service projects that contribute to the welfare and development of individuals and of communities. The center's programs include aging and health services, urban social development, environmental education, volunteerism, and international exchange. The center coordinates a number of service learning experiences and offers a graduate academic certificate in volunteer management.

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Department of Anthropology

Main Office
Chilton Hall, 330
P.O. Box 310409
Denton, TX 76203-0409
(940) 565-2290
Web site: www.unt.edu/anthropology

Tyson Gibbs, Chair

Graduate Faculty: Davenport, Gibbs, Hartman, D. Henry, L. Henry, Jordan, Nuñez-Janes, ReCruz, Wasson.

The Department of Anthropology offers both on-campus and online graduate programs leading to the following degrees:

- Master of Arts, and
- Master of Science, both with a major in applied anthropology.

In cooperation with the UNT Health Science Center in Fort Worth, students may also earn a dual degree in public health with a specialty in community health.

The master's degree in applied anthropology is grounded in the theory and methods of anthropology, and is designed primarily to prepare students for employment outside academia. Students will be prepared to apply anthropological knowledge in private and public sectors, foundations, and businesses in local, regional, and international areas. Knowledge is to be applied to our most compelling social problems and to the operation and administration of agencies charged with addressing these problems. The central goal of our program in applied anthropology is to provide the knowledge necessary for its graduates to undertake informed and thoughtful action as street-level practitioners, administrators, agency-based researchers and program evaluators.

Research

Faculty have expertise in migration, border studies, Latin America especially Mexico, race and ethnicity, technology and cyberspace, organizational anthropology, globalization, marketing, consumer behavior, product design, medical anthropology, public health, sociocultural impact analysis, directed change and development, urban centers, sustainable communities, and bilingual education.

Recent research focuses on leadership and organizational culture in self-managed work teams, African American health-seeking behavior, colonias on the

border, Hispanic migrant women in North Texas, volunteer teaching of English in Hispanic communities, integration of Mexican migrants into public policy and urban planning, outreach and educational attainment of Latinos, bilingual education and identity, Mvskoke (Creek) Indian Medicine, virtual communication and collaboration in the workplace, Internet chat-room liaisons and the spread of HIV, violence and refugees, culture change and the reconstruction of indigenous healing systems, the acculturation of allied health students to biomedicine, and physician assistants and rural health care.

Degree Programs

Master of Arts, Master of Science with a Major in Applied Anthropology

Admission Requirements

1. The applicant must apply for and be granted admission to the Toulouse School of Graduate Studies and also apply separately to and be accepted by the applied anthropology program.
2. The applicant must hold the bachelor's degree from an accredited U.S. institution or equivalent training at a foreign university.
3. Applicants must supply official GRE test scores.
4. Applicants must have adequate subject preparation in anthropology. If the applicant is accepted into the program with fewer than 12 hours of anthropology, the applicant must take a prerequisite leveling course (ANTH 5200) the summer before the first year of study. Please contact the Director of Graduate Studies, Lisa Henry, for more information (LHenry@unt.edu).
5. Applicants must submit a statement of purpose (500–750 words).
6. Applicants must submit a writing sample.
7. Applicants must submit three Reference Evaluation Forms (or letters of recommendation) from persons familiar with their academic record. If an applicant received an undergraduate degree from UNT, only two references may come from the UNT anthropology faculty.

Program Requirements

For the Master of Arts degree, students fulfill the 36 hours of degree requirements and demonstrate knowledge of a foreign language.

For the Master of Science degree, students fulfill the 36 hours of degree requirements including a course in an additional skill appropriate to their specialty.

The School of Public Health at the University of North Texas Health Science Center and the

Department of Anthropology at the University of North Texas have developed a cooperative agreement that allows students to pursue the Master of Public Health and the Master of Arts in Applied Anthropology. Students may count their approved concentration courses in public health as part of their major and minor areas in anthropology.

The Master of Applied Anthropology program requires satisfactory completion of a minimum of 36 hours of study and research beyond the bachelor's degree.

Core Courses, 15 hours*

- ANTH 5010, Anthropological Thought and Praxis I
- ANTH 5015, Anthropological Thought and Praxis II
- ANTH 5020, Quantitative Methods in Anthropology
- ANTH 5040, Ethnographic and Qualitative Methods
- ANTH 5060, Pre-Practicum: Problems and Cases in Applied Anthropology

*Candidates who do not have at least 12 hours of anthropology must take an additional core course (ANTH 5200 Seminar in Cultural Anthropology) the summer before the first year of study.

Elective Courses, 15 hours

A minimum of two electives (6 hours) must be from *outside* anthropology. A minimum of two electives (6 hours) must be from *inside* anthropology. If pursuing an MS degree, the skills class requirement counts as one of the five electives. The student's graduate committee must approve the course work. Electives in the anthropology master's program are:

- ANTH 5030, Medical Anthropology
- ANTH 5070, Urban Ethnic Cultures
- ANTH 5200, Seminar in Cultural Anthropology
- ANTH 5610, Topics in Sociocultural Anthropology (Symbolic Anthropology)
- ANTH 5610, Topics in Sociocultural Anthropology (Anthropology of Business Organization)
- ANTH 5610, Topics in Sociocultural Anthropology (Contemporary Ethnographic Issues)
- ANTH 5610, Topics in Sociocultural Anthropology (Migrants and Refugees)
- ANTH 5610, Topics in Sociocultural Anthropology (Ethnography of Product and Technology Use)
- ANTH 5900, Special Problems
- ANTH 5910, Special Problems

Note: During some terms/semesters, undergraduate courses are cross-listed as graduate courses, which provide graduate students with a greater selection of elective courses.

Practicum, 6 hours

All candidates must take 6 hours of supervised practicum and seminar in lieu of thesis:

- ANTH 5800, Applying Anthropology: Practicum I
- ANTH 5810, Applying Anthropology: Practicum II

Funding

Each term/semester the department is able to provide a limited number of teaching assistant/grader positions for graduate students. If interested, the student should fill out an application and turn it in to the department before the beginning of the new term/semester.

The Department of Anthropology has a limited number of scholarships of \$1,000 each. The graduate committee will decide on scholarship nominees based on first year status and academic achievement; the faculty will then vote. Students must take a minimum of 9 hours.

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Institute of Applied Economics

Main Office
Chilton Hall, 263
P.O. Box 310469
Denton, TX 76203-0469
(940) 565-3437

Web site: www.unt.edu/aeco

Bernard L. Weinstein, Director

Graduate Faculty: Clower, McKee, Weinstein.

The Institute of Applied Economics offers an interdisciplinary professional program leading to the following degree:

- Master of Science with a major in applied economics.

Faculty from the institute also participate in a program leading to the master's degree with a major in interdisciplinary studies administered by the School of Graduate Studies. For further information about the interdisciplinary studies program, consult the Toulouse School of Graduate Studies section of this catalog. Students may also pursue a professional certificate in alternative dispute resolution.

Research

Institute of Applied Economics faculty pursue a wide range of research interests, including labor relations, labor market information, local and regional economic analysis, state and local fiscal and regulatory policy, energy policy, conflict resolution and economic development. Faculty publications have appeared both in professional journals, such as *Business Insights*, *Arbitration Journal*, *Policy Review*, *Economic Development Quarterly*, *Economic Development Commentary*, *Society and Challenge*, and in the editorial and financial pages of the nation's leading news journals, including *The New York Times*, *The Wall Street Journal* and *The Los Angeles Times*. Faculty members also have published numerous books and monographs on economic and regional development topics.

The Institute of Applied Economics is closely affiliated with the University Center for Economic Development and Research, which provides economic and public policy consulting services to organizations in the private, nonprofit and public sectors. Projects conducted by the center offer students of the Institute of Applied Economics both professional development and career opportunities. Clients of the Center for Economic Development and Research have included a range of state government agencies, Fortune 500 companies, foundations and communities across North Texas.

Admission Requirements

The general criteria governing acceptance to the institute's graduate program are the same as those governing admission to UNT's School of Graduate Studies. While consideration is given to all aspects of an individual's record in determining acceptability for admission, major emphasis is placed on the student's grade point average for approximately the last 60 hours of undergraduate work and on scores on the GRE or the GMAT.

An application, official transcripts and test scores should be submitted to the School of Graduate Studies. All other official credentials should be submitted to the associate director of the institute. See department web site or student guidelines for details.

Degree Program

Master of Science with a Major in Applied Economics

The major objective of this program is to prepare recent graduates and practitioners for careers in business and industry, government, and the non-profit sector with a grounding in applied economics, related disciplines and research methods. The master's program in applied economics is an interdisciplinary effort that, depending upon the candidate's field of concentration, may involve courses in accounting, finance, geography, marketing, political science, public

administration, real estate and sociology, in addition to a solid core of economics and applied economics courses. Students interested in economic education or labor and industrial relations should consult the Economics section of this catalog or an adviser in the Department of Economics.

The program requires satisfactory completion of a minimum of 36 hours of study and research beyond the bachelor's degree, which includes 6 hours of directed research leading to a master's thesis or problem in lieu of thesis. Candidates for graduate degrees must also pass a comprehensive examination. Further details are available in the student guidelines available from the department. Consult the institute director or associate director for core curriculum requirements and suggested electives. Prospective students are eligible for scholarships of up to \$3,000 for the academic year. Limited numbers of graduate research assistantships are also available in conjunction with funded research projects.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Applied Gerontology

Main Office
Chilton Hall, 359
P.O. Box 310919
Denton, TX 76203-0919
(940) 565-2765
Fax: (940) 565-4370
Web site: www.unt.edu/aging

Richard A. Lusky, Chair

Graduate Faculty: Eve, Ingman, Lusky, Swan, Turner.

The primary objective of the degree programs in the Department of Applied Gerontology is to provide preparation for professionals in the field of gerontology. Programs prepare students to be administrators of long-term care and retirement facilities, home health care agencies and therapeutic day care centers; to participate in the planning, coordination and

administration of public and private programs in gerontology; and to hold aging-related positions in business and industry.

University library holdings in gerontology are extensive as a result of systematic acquisitions beginning in the early 1960s. In addition, the nationally recognized Gerontological Film Collection, available through the Media Library, holds more than 400 titles.

Opportunities for research assistantships for qualified graduate students are available.

Students in other fields may minor in applied gerontology at the master's or doctoral level.

Research

Research at the Department of Applied Gerontology is concerned with various social, psychological and policy aspects of aging. Faculty members currently are investigating accessibility of the health care delivery system for adults and older adults, health care services utilization by the uninsured, images of aging in film and literature, ethical issues in geriatric service delivery, sustainable senior communities, senior reengagement and volunteerism, aging and developmental disabilities, mediation and conflict resolution, and integrating community-based and residential programs for the aged.

Degree Programs

The department offers graduate programs leading to the following degrees:

- Master of Arts,
- Master of Science, both with majors in long-term care, senior housing and aging services, and general studies in aging; and
- Doctor of Philosophy, with a major in applied gerontology.

Master of Arts, Master of Science

Admission Requirements

Applicants for admission must meet all general admission requirements of the Toulouse School of Graduate Studies. GPA requirements are described in the Admission section of this catalog. Application also must be made to the Department of Applied Gerontology. A satisfactory score on the aptitude section of the Graduate Record Examination must be submitted.

No specific undergraduate major is required. However, 3 hours of social gerontology are a prerequisite for all master's degree candidates. This prerequisite may be taken concurrently with courses applying to the master's degree.

General Degree Requirements

All majors require completion of 45 graduate hours. Students must complete a capstone course, Proseminar on Applications in Practice, for 3 hours

credit. One of the requirements of this course is the production of a major written project.

Master's degree candidates must pass an oral comprehensive examination.

Candidates for the MA degree must demonstrate proficiency in a foreign language (normally French, German or Spanish). See the "Foreign Language Requirement" heading in the Master's Degree Requirements section of this catalog for further details.

Master of Arts, Master of Science Long-Term Care, Senior Housing and Aging Services

Required courses: AGER 5300, 5400, 5600; AGER 5750 or AGER 5700 and 5860; AGER 5710, 5740, 5780, 5790, 5810, 5940; plus 3 hours of internship (AGER 5840).

Electives in applied gerontology (AGER 5250, 5350, 5500, 5560, 5770, 5800, 5880 and 5890) or in business administration. Students seeking licensure as long-term care administrators must take ACCT 5020, BLAW 5050 and MGMT 5520.

Requests for course substitutions are considered on an individual basis and may be approved if warranted by the student's academic background and/or professional experience. Students earn 3 hours of credit by completing a required 500-clock-hour supervised internship in a suitable aging services organization. Students seeking licensure as long-term care administrators must serve a 1,000-clock-hour internship, for 6 hours credit, in a licensed long-term care facility. Internship placements are available nationwide under the preceptorship of experienced professionals.

Licensed long-term care administrators may be allowed to substitute additional course work for the internship.

Master of Arts, Master of Science General Studies in Aging

Required courses: AGER 5500, 5560, 5600, 5710, 5780, 5840, 5860, 5880, 5940 and 6150.

Students earn 3 hours of credit by completing a required 500-clock-hour supervised internship in an appropriate facility serving the elderly. Internship placements are available nationwide under the preceptorship of experienced professionals.

Students with extensive practitioner experience may be allowed to substitute additional course work for the internship.

Minor (optional): Students majoring in general studies in aging may choose 6 to 12 semester hours in a minor field such as business administration, psychology, sociology, rehabilitation studies, health promotion, recreation or other areas of special interest. Other

AGER courses totaling 3 to 9 hours will be selected in consultation with the student's adviser.

Doctor of Philosophy in Applied Gerontology

The University of North Texas grants the Doctor of Philosophy degree in applied gerontology. Applied gerontology involves the application of knowledge from the field of gerontology to the identification, development, provision and evaluation of products and services responsive to the special needs of older people. All students in the doctoral program master the gerontological theories, knowledge and research techniques needed both to make policies consistent with such applications and to be advocates for these policies.

The program's curriculum includes required courses on theories of aging, formal organization of aging services, health and aging, research methods, statistics and policy in aging. Additionally, students must select from groups of related courses in gerontology, planning and administering services, and policy issues in aging.

Admission Requirements

Students must initially apply to and meet the general admission requirements of the Toulouse School of Graduate Studies at UNT. Applications of students who satisfy the graduate school's admission standards are forwarded to UNT's Department of Applied Gerontology for review. The department is responsible for recommending acceptance into the doctoral program to the graduate school. The following requirements must be met for admission.

1. For admission to the PhD program in applied gerontology, the applicant must have a master's degree; have completed a minimum of 9 graduate hours of gerontology and at least 3 graduate semester hours in research methods; have at least a 3.4 GPA for master's courses; and have acceptable scores on the verbal and quantitative sections of the Graduate Record Examination (GRE). See the department's web page or contact the Toulouse School of Graduate Studies for information concerning acceptable admission test scores. The department also requires three letters of recommendation and the submission of a five-page, double-spaced essay. At least two of the letters of recommendation must be from the applicant's past professors. Contact the department for an outline of the required essay.
2. To be considered for conditional admission, requiring an appeal to the graduate school, the applicant must have a master's degree, at least a 3.0 GPA for all master's credit, acceptable scores on the verbal and quantitative sections of the GRE (see the department's web page or contact the Toulouse School of

Graduate Studies for information concerning acceptable admission test scores), the required letters of recommendation and essay, and substantial alternative evidence of potential success in graduate studies.

3. Outstanding undergraduates without the master's degree who otherwise meet all admission requirements may be considered for conditional admission into the doctoral program.

The dean of the graduate school will notify the applicant of admission to graduate studies and admission to the applied gerontology program. Prior to enrolling for the first term/semester of doctoral work, the student should consult with the director of the doctoral program to schedule courses for that term/semester.

Degree Requirements

1. The minimum program for the PhD in applied gerontology consists of 90 hours beyond the bachelor's degree, plus 9 hours of a tool subject(s); or 60 hours beyond the master's degree, plus 9 hours of a tool subject(s). Specific requirements include:
 - a. 18 semester hours in foundation core courses covering theories of aging, formal organization of aging services, health aspects of aging, research methods, social statistics, and policy in aging;
 - b. 3 semester hours selected from designated courses in social gerontology, and 15 semester hours selected from designated courses in planning and administration of services, and policy issues in aging;
 - c. 12 semester hours of approved electives;
 - d. a minimum of 12 semester hours of dissertation; and
 - e. 9 hours of a tool subject (e.g., computer science, language).
2. Students must complete a research tool requirement. The student must complete 9 semester hours of course work in computer science or other research tool subjects (the tool courses must be recommended by the student's committee and approved by the chair of the department) or demonstrate language proficiency in French, German or Spanish. Substitution of another language may be approved by the graduate dean upon recommendation of the student's advisory committee. The advisory committee may require proficiency in a language when the dissertation research demands it.
3. A student must carry a full load of 9 hours for any two consecutive terms/semesters to fulfill the residence requirement.
4. The student must establish an advisory committee and prepare a degree plan approved by this committee. The advisory committee is composed of three to five members. At least two, including the

major professor or chair, must be from the full-time gerontology faculty. The third faculty or committee member may be from outside the Department of Applied Gerontology. This committee is approved by the dean of the graduate school upon recommendation of the student, department chair and graduate adviser. In conjunction with approval of the degree plan, the advisory committee may administer a diagnostic review to assist the student in completing the program. The degree plan of the individual student should be completed during the first term/semester of the second year of graduate work or after completion of 18 semester hours in the program.

5. Qualifying examinations are required of all students. Examinations are written in theory, methods and an area of concentration. The theory and methods exams must be taken within or at the completion of the student's first 27 hours of PhD work. The exams are prepared and evaluated by an advisory committee composed of faculty from the College of Public Affairs and Community Service, the College of Arts and Sciences, the College of Business Administration and the College of Education. The concentration exam can be taken after the foundation courses and the 12-hour course requirement for a concentration have been completed. These exams are prepared and evaluated by members of the student's advisory committee, who may administer an oral examination upon successful completion of all written exams. Preparation for these exams includes, but is not limited to, course work, reading key literature and participating in study groups.

The successful completion of these examinations is a prerequisite for admission to candidacy for the degree. Admission to candidacy is granted by the graduate dean upon recommendation of the advisory committee and the chair, and also based upon the student's academic record and successful completion of the tool requirement.

6. Under the direction of the advisory committee, the candidate must write a dissertation representing original research. It must make a significant contribution to the discipline of gerontology in the student's area of concentration.

The student must defend orally a written dissertation proposal that meets with the approval of the advisory committee before the dissertation is written. The final written dissertation must be defended orally before the committee and approved by them.

Minor in Applied Gerontology

Students in other fields may choose applied gerontology for a minor. AGER 5700, 5710, 5780 and 5860 are required for minor students, with additional courses to be chosen in consultation between the student and minor professor.

Other Advanced Study

The graduate academic certificate, Specialist in Aging, is designed for health and human service professionals who wish to complement their existing knowledge and skills with an understanding of aging and services for the aged. Faculty of two- and four-year colleges and universities and doctoral candidates in other fields may also find the specialist certificate a valuable adjunct to their academic credentials. The 15-semester-hour program includes 12 semester hours of core courses covering social, physiological and psychological aspects of aging as well as government programs for the elderly, plus 3 elective hours of applied gerontology. For students who have successfully completed the Retirement Housing Professional certification program jointly sponsored by the Department of Applied Gerontology and the American Association of Homes and Services for the Aging, the 3 elective hours will be waived.

Courses of Instruction

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Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Behavior Analysis

Main Office
Chilton Hall, 360

P.O. Box 310919
Denton, TX 76203-0919
(940) 565-2274
Fax: (940) 565-2467

Web site: www.unt.edu/behv

Student Advising Office
Chilton Hall, 360E
(940) 565-3318

Richard G. Smith, Chair

Graduate Faculty: Ala'i-Rosales, Ellis, Glenn, Hyten, Rosales-Ruiz, Smith, Vaidya.

The Department of Behavior Analysis offers a program of general and applied course work leading to the following degree:

- Master of Science with a major in behavior analysis.

This program prepares students to apply behavioral principles to solve performance problems in work, home, institutional and educational settings. Graduates may work in human service or business settings, or they may go on to doctoral training in one of a number of fields.

University library holdings in behavior analysis are extensive. The Donald L. Whaley Memorial Scholarship is awarded annually to one or more students in behavior analysis. Research and teaching assistantships are available for qualified students, as are opportunities for paid work in behavior analysis.

Research

Both laboratory and applied research are conducted at the Department of Behavior Analysis, and scholarly work in the theory and philosophy of a science of behavior is ongoing. Applied research in a variety of field settings is supervised by faculty.

Departmental laboratories accommodate multiple ongoing experiments in human and non-human operant behavior.

Current research is in the areas of stimulus equivalence, relations between verbal and physiological measures, functional analysis and treatment of self-injurious behavior, nature and causes of behavioral variability, organization of behavior in human repertoires in home and in school, treatment of children with autism, functional assessments and behavioral interventions in classrooms, and stimulus control.

Admission Requirements

Admission to the master's program in behavior analysis is based on combined information from several sources: GRE scores; undergraduate GPA and, where applicable, GPA in post-baccalaureate courses; letters of recommendation; demonstrated skills and serious interest in behavior analysis (as evidenced by previous course work/grades, completed research and/or applied projects in behavior analysis undertaken at the undergraduate level or in work settings under the supervision of a behavior analyst); and a personal statement (letter) as to the applicant's goals and interests in behavior analytic research and practice. The departmental admissions committee considers every applicant on an individual basis in an attempt to ensure that a student who is accepted to the program will be capable of completing the rigorous curriculum.

Prerequisites

Although no specific undergraduate major is required, an appropriate background is desirable. Students must have a minimum of 6 semester credit hours in behavior analysis, including a course in behavioral principles before beginning course work toward the master's degree. After the first term/semester of course work, and on a continuing basis, students are advised regarding ways in which they can best achieve the level of expertise required to master the subject matter included in the curriculum.

Degree Program

Master of Science with a Major in Behavior Analysis

The purpose of the program is to:

- teach principles, theory and research methods of behavior analysis;
- teach procedures for systematic application of behavioral technology in applied settings; and
- provide practical experience in functional analysis; in designing, implementing and evaluating behavioral applications; and in laboratory research.

The graduate program is designed to enable students to follow either of two career paths upon graduation:

1. **Professional employment in the applied field:** conduct behavioral assessments and behavioral interventions in human service or business settings, train employees in program interventions and conduct applied research in public and private agencies and institutions; or
2. **Doctoral study in behavior analysis:** enter PhD programs at other universities to continue advanced

study in applied behavior analysis or the experimental analysis of behavior.

Students focusing in either area will take courses from a core curriculum, take elective courses tailored to their interests and complete a thesis.

Students with disabilities should contact the department office for the name of the graduate adviser.

Degree Requirements

Students focusing on application will complete 48 semester hours, including 24 hours of core courses and thesis, designated and free elective courses, and 7 hours of practicum/internship. Others will complete 42 semester hours of work in the same categories, but will have one 2-hour practicum.

Full- or part-time study is possible, as long as a satisfactory pace is maintained. Ordinarily, students will take a minimum of 6 hours per term/semester and finish in five to eight terms/semesters.

Courses of Instruction

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Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Criminal Justice

Main Office
Chilton Hall, 265
P. O. Box 305130
Denton, TX 76203-5130
(940) 565-2562
Fax: (940) 565-2548
Web site: www.unt.edu/cjus

Robert W. Taylor, Chair

Eric J. Fritsch, Graduate Adviser
Graduate Faculty: Boyd, Caeti, Fritsch, Holman,
Liederbach, Loper, Quinn, Taylor, Tobolowsky, Trulson,
Wilmot.

Research

Applied research projects and program evaluation studies are conducted by the Department of Criminal Justice. The department's current research programs and interests focus on the evaluation of gang intervention units, the development of information systems in criminal justice agencies, the impact of international and domestic terrorism in the United States, the evaluation of local community policing programs, the impact of juvenile crime and laws on the criminal justice system, the investigation of patterns in juvenile homicide victimization, capital punishment, aspects of criminal victimization, and the effects of substance abuse on crime.

The Department of Criminal Justice offers a graduate program leading to the following degree:

- Master of Science with a major in criminal justice.

The primary objective of the degree program is to provide students with a master's level understanding of the nature and scope of the problems posed by crime, and the operation and administration of the agencies charged with addressing this social problem. The central goal of the Master of Science with a major in criminal justice is to improve the ability of its graduates to undertake informed and thoughtful action as direct workers, administrators, or researchers in the justice system. The program prepares students for entry-level positions in the justice system for students beginning their professional careers and job advancement for students already employed in the justice system. The program also prepares students who are interested in pursuing a PhD upon completion of the master's degree. The master's degree in criminal justice allows each student to take a number

of electives, thus permitting students to tailor their degrees to their professional and personal needs. The faculty in the Department of Criminal Justice come from a diverse range of educational and professional backgrounds including criminal justice, law, sociology, political science, social work and urban studies.

Admission Requirements

All general admission requirements to the Toulouse School of Graduate Studies, as outlined elsewhere in this bulletin, must be fulfilled. Application must first be made to the Toulouse School of Graduate Studies through the office of the graduate dean. Once the student is admitted to the graduate school, the application will be reviewed by the department for admission to the Master of Science with a major in criminal justice program. Applications are reviewed for admission in the fall or spring terms/semesters. Applications are not reviewed for summer admission.

Admission to the program leading to the Master of Science with a major in criminal justice requires satisfactory completion of at least 9 hours of undergraduate work in criminal justice. This requirement can be waived for individuals with significant experience in the criminal justice field. In addition, admission to the program leading to the Master of Science with a major in criminal justice requires satisfactory completion of at least 3 hours of upper-level course work in social science research methods.

To receive admission to the master's degree program with a major in criminal justice, applicants must have a grade point average of 3.0 on the last 60 hours of courses for the bachelor's degree or a GPA of 2.8 on all undergraduate work. In addition, applicants must have an acceptable score on the verbal and analytical writing sections of the Graduate Record Exam.

In order for an application to be considered for admission, the student's application packet needs to be completed by August 1 (for fall admission) or December 1 (for spring admission). A completed application packet includes the following:

1. application,
2. transcripts,
3. official GRE scores on file with the graduate school, and
4. personal statement.

The personal statement is sent directly to the department graduate adviser and includes an explanation of the following: career goals, why the student is pursuing a master's degree, prior experience in the criminal justice field, prior research experience in criminal justice, and anything in the student's personal background relevant to the admission decision.

Personal statements are sent directly to:

Eric J. Fritsch, PhD
 Graduate Adviser
 University of North Texas
 Department of Criminal Justice
 P.O. Box 305130
 Denton, TX 76203-5130

Degree Program

Master of Science with a Major in Criminal Justice

The program requires satisfactory completion of a minimum of 36 hours beyond the bachelor's degree. The degree includes a core curriculum of 12 hours, which must be completed by all students. The following 9 hours must be completed by all students: CJUS 5000, Criminal Justice Policy; CJUS 5600, Advanced Criminological Theory; and CJUS 5700, Evaluation and Research Methodologies. In addition, students must complete one of the following two courses in the core curriculum (3 hours): CJUS 5200, Legal Aspects of the Criminal Justice System or CJUS 5500, Seminar in Criminal Justice Administration. The degree requires each student to select a thesis or non-thesis option.

Students selecting the thesis option will be required to complete the core curriculum of 12 hours, 18 hours of electives, and 6 hours of thesis. Students selecting the thesis option must have departmental consent to enroll in thesis; the satisfactory completion of CJUS 5750, Criminal Justice Statistics, is required prior to enrolling in thesis. Students choosing the thesis option must also pass an oral examination in conjunction with a master's thesis defense.

Students selecting the non-thesis option will be required to complete the core curriculum of 12 hours and 24 hours of electives. Students choosing the non-thesis option must also pass a written comprehensive exam covering the core curriculum. All course work applied toward the Master of Science with a major in criminal justice must be at the 5000 level.

The Department of Criminal Justice also participates in a program leading to the master's degree with a major in interdisciplinary studies, which is administered by the Toulouse School of Graduate Studies. For further information about the interdisciplinary studies program, consult the Toulouse School of Graduate Studies section of this catalog or contact the Department of Criminal Justice graduate adviser.

Minor in Criminal Justice

Students in other fields may choose criminal justice for a minor. Students selecting criminal justice as a minor are required to complete 9 hours of graduate work in criminal justice.

Minimum Academic Standards for Master's Students

The graduate committee in the Department of Criminal Justice will recommend withdrawal of a student from the master's program if the student receives two course grades of C or below (for purposes of this rule, the first grade received in a course is used).

Program Approval

Each graduate student must receive advising from the departmental graduate adviser prior to registration each term/semester.

During the first term/semester of a master's program, the student must submit a degree plan, through the departmental graduate adviser. The degree plan must be approved by the departmental graduate adviser and the Toulouse School of Graduate Studies. Any degree plan change must have prior consent. A maximum of 9 hours of transfer work may be applied toward the master's degree. The final decision on applicability of transfer work rests with the departmental graduate adviser.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Public Administration

Main Departmental Office
Wooten Hall, 366

P.O. Box 310617
Denton, TX 76203-0617
(940) 565-2165
Fax: (940) 565-4466

E-mail: mpa@unt.edu
Web site: www.unt.edu/padm

Robert L. Bland, Chair

Bob Bland, MPA Program Coordinator
Janay Tielun, Associate MPA Program Coordinator
and Internship Coordinator

Al Bavon, PhD Program Coordinator

Graduate Faculty: Bavon, Benavides, Bernick, Bland, Cruz, Dicke, Glass, Kendra, Krueger, McEntire, Rozdilsky.

The Department of Public Administration offers a graduate program leading to the following degrees:

- Master of Public Administration, and
- Doctor of Philosophy with a major in public administration and management

Research

The faculty in the Department of Public Administration pursue an active research program that focuses on policy and administrative issues of concern to government. The department maintains an emphasis on issues of concern to city and county management, including economic development and growth management, executive recruitment, personnel management, municipal debt acquisition, health policy and administration, emergency and disaster planning, county government organization and management, state government administration, career paths of city managers, intergovernmental management, public/private partnerships, city managers as policy-makers, capital spending for infrastructure, and property tax policy and administration.

Books authored, co-authored or edited by the faculty include *City Executives: Leadership Roles, Work Characteristics and Time Management*; *A Revenue Guide for Local Government*; *Recruiting Local Government Executives*; *Texas Politics*; *Budgeting: A Guide for Local Governments*; and *The Effective Local Government Manager*.

The department's research is supported by grants from within the university as well as grants and contracts with local and federal government,

other universities and professional associations.

The department also supports the Center for Public Management, which provides contract research, training and technical assistance to local governments throughout Texas and the Southwest, and occasionally provides part-time employment opportunities for qualified graduate students.

Degree Programs

Master of Public Administration

More than 800 alumni of the Master of Public Administration (MPA) program work in the public sector as well as the private and nonprofit sectors. The curriculum in the MPA program emphasizes a combination of courses and practical experience leading to entry-level management positions for students beginning their professional careers and job advancement for students already in government service. All faculty members have professionally relevant experience and are involved with a number of professional associations.

Current information may be obtained by accessing the department's web site at www.unt.edu/padm.

The MPA degree at the University of North Texas is accredited by the National Association of Schools of Public Affairs and Administration (NASPAA) [1120 G Street NW, Suite 730, Washington, DC 20005; (202) 628-8965]. The curriculum conforms to NASPAA standards.

Career Opportunities

Graduates of the MPA program enter a wide range of careers in government and the nonprofit sector, and, to a lesser extent, in business. The greatest employment opportunities are in city and county government, primarily because of faculty ties and an extensive alumni network in management positions. A growing number of graduates, however, serve in state and federal government, and in non-profit organizations. A few serve in administrative positions in other countries. Graduates of the MPA program at UNT work in management positions in such areas as city management, disaster and emergency response, budgeting and finance, human resources, utilities, planning, public safety and public works, evaluation and auditing, and in administrative positions in such nonprofit organizations as Habitat for Humanity, chambers of commerce and the United Way.

Students without prior government experience are required, in most cases, to complete an internship for which they receive 6 hours of credit. The department assists students in locating internship positions as well as full-time employment.

Admission Requirements

All general admission requirements to the Toulouse School of Graduate Studies, as outlined elsewhere in this bulletin, must be fulfilled, including minimum Graduate Record Examination (GRE)

and grade point requirements. Application must first be made to the School of Graduate Studies through the office of the graduate dean. Once the student is admitted to the graduate school, the application will be reviewed by the department for admission to the MPA program. Applications to the MPA program are reviewed throughout the year.

The Master of Public Administration program uses a holistic review process for reviewing applications for admission. The application packet includes official transcripts for all college work (from which a grade point average is computed), GRE scores (verbal, quantitative and writing), three letters of recommendation from persons capable of evaluating the applicant's potential for graduate study, an essay describing the applicant's career objectives and explaining how an MPA degree will help achieve those objectives, and a current resume.

Degree Requirements

A minimum of 42 hours of graduate credit for pre-career students is required. For students with up to three years of full-time management experience at the time of admission, the number of required hours is reduced to 39; for students with more than three years of mid-level managerial experience, 36 hours of graduate credit are required. These program length requirements are distributed as follows:

1. 24 hours of required course work in public administration;
2. a 6-hour internship for most pre-career students (the 6 hours of intern credit is not available to those in the 39- or 36-hour programs); and
3. the remaining hours selected from a variety of electives or as part of a specialization appropriate to the student's interests. Specializations supported by the MPA program include local government management, emergency management, financial management, nonprofit management, and personnel management.

In addition to the course requirements, students must pass a written comprehensive examination or an oral examination in conjunction with a master's thesis defense. Students selecting the written examination option must take an examination covering the core courses and areas included in the MPA degree program. The examination may be taken after completion of 30 hours of course work. Students selecting the thesis option must complete 36 hours of course work plus a master's thesis for which 6 hours of credit will be granted. For pre-career students completing a thesis, a public service internship is required and the degree program is extended to 48 hours. The thesis option is especially appropriate for students planning to pursue a doctorate after completing the MPA.

Curriculum options are adapted to the needs of both pre-career and in-career students. Selected

courses are offered off campus at the City of Carrollton Service Center. Additional program information is contained in the *MPA Student Handbook*. The student is responsible for obtaining a copy of the document from this department and for knowing its contents.

Financial Assistance

A number of financial assistance programs are available to students in the MPA program. Each year the department awards to entering MPA students up to five Hatton W. Sumners Fellowships, each of which provides a \$12,000 stipend paid over 16 months plus \$4,500 toward tuition. For the first 12 months of their appointment, Sumners Scholars work 10 hours each week as research assistants for a faculty member. Other financial assistance available to students includes Alumni Scholarships worth up to \$3,000 each for tuition and fees and the E. Ray Griffin Alumni Scholarship for tuition and fees. Outside funding is sometimes available to qualified students from the North Central Texas Council of Governments. Under current rules, nonresidents of Texas receiving at least \$1,000 per year in scholarships qualify for in-state tuition.

Doctor of Philosophy

The PhD in public administration and management is designed primarily for those interested in scholarly careers as researchers and teachers. The PhD program emphasizes research methods and statistics and theoretical perspectives to enable its graduates to become effective teachers and contribute to the generation and development of public administration knowledge. The degree program also prepares graduates who do not necessarily want to teach in academic settings to pursue other careers and function effectively as policy analysts and managers in other organizations. Since students entering the PhD program are expected to have satisfied the requirements for a master's degree, the curriculum for doctoral students emphasizes analytic tools and theoretical issues confronting the study and practice of public administration.

Admission Requirements

Admission to the PhD program is a two-tiered process. Applicants must first gain admission to the Toulouse School of Graduate Studies, and then to the PhD program. Students who enter the PhD program must have completed a master's degree and, where appropriate, take prerequisite courses after entering the PhD program. Admission to the program is based on an assessment of the applicant's academic ability and potential to meet the demands of a rigorous graduate program. Each application is considered using multiple criteria, including the student's cumulative

academic performance and potential. Admission to the PhD program requires the following:

1. a master's degree, preferably in public administration or a related field, from an accredited college or university;
2. admission to the Toulouse School of Graduate Studies (www.gradschool.unt.edu);
3. a grade point average (GPA) on the last 60 hours of college work of 3.2 or higher on a 4.0 scale;
4. satisfactory scores for all three parts of the GRE General Test (verbal, quantitative and analytical writing);
5. three letters of recommendation, preferably from professors;
6. an essay by the applicant describing career objectives; and
7. a current resume showing all work experience.

Degree Requirements

The PhD program requires a minimum of 90 credits of coursework, including up to 24 credits earned in the process of completing the MPA degree or its equivalent. All students who enter the program must either have already completed courses required for the MPA degree or take appropriate courses, specified by the PhD coordinator, after admission to the program. PhD students are expected to complete course work in the following areas:

1. MPA core or equivalent in transferred courses (24 hours),
2. substantive core (12 hours),
3. research tool (12 hours)
4. specialization (minimum of 12 hours),
5. minor field (minimum of 12 hours),
6. directed research (6 hours), and
7. dissertation (12 hours).

Additional program information is contained in the "PhD Degree Program Handbook" available from the PhD program coordinator or from the web site (www.unt.edu/padm).

Qualifying Exam and Dissertation

Once all course work has been completed, including research tools, the student then must satisfactorily pass a comprehensive qualifying examination. This consists of both a written and oral portion. Successful completion of both components results in the student's admission to candidacy for the PhD degree. Students then enroll for up to 12 dissertation hours.

The doctoral candidate must submit a dissertation that contributes new knowledge to the field. The dissertation is prepared under the oversight of a major professor, selected by the student with the approval

of the PhD coordinator, and then defended before a dissertation examination committee.

Emergency Administration and Planning

A Bachelor of Science with a major in emergency administration and planning is offered at the undergraduate level (see the *Undergraduate Catalog* for description).

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Rehabilitation, Social Work and Addictions

Main Office
Chilton Hall, 218
P.O. Box 311456
Denton, TX 76203-1456
(940) 565-2488
Web site: www.unt.edu/rswa

Paul Leung, Chair

Graduate Faculty: Barton, Bodenhamer-Davis, Evenson, Holloway, Isom, Leung, Quinn, Thomas, Williamson.

The Department of Rehabilitation, Social Work and Addictions (DRSWA) was founded as the Center for Rehabilitation Studies in 1967 to provide professional degrees and continuing education in vocational rehabilitation services. The social work program joined the department in 1995. The mission of the department is to develop and disseminate innovative and interdisciplinary practices that enhance opportunities for all people to live and work in their communities. This mission is accomplished through three functional components: the Academic and Research component, the Continuing Education and

Technical Assistance component, and the Rehabilitation Services Laboratories.

DRSWA is also the home of the Region VI Continuing Education Program for Community Rehabilitation Programs (CRP-RCEP) and the Consortium for Distance Education in Rehabilitation (CDER). CDER's distance education program is offered through UNT as part of a three school consortium involving San Diego University and Georgia State University. One of 10 CRP-RCEPs in the nation, the Region VI project provides services to community rehabilitation personnel within Region VI – Arkansas, Louisiana, New Mexico, Oklahoma and Texas. Funded by the Rehabilitation Services Administration, the mission of the Region VI CRP-RCEP is to increase the capacity of personnel within these programs to provide quality services that enhance the employment and independent living outcomes of individuals with disabilities. This is accomplished through training, technical assistance and system support.

The DRSWA Neurotherapy Laboratory, established in 1992, provides graduate course work, continuing education, research and direct client-service opportunities in quantitative EEG and EEG biofeedback.

DRSWA offers course work and degree programs at both the undergraduate and graduate levels.

Rehabilitation

Career Opportunities

National commitments to improve opportunities and services for people with disabilities have affected the rehabilitation and education professions. Trends toward deinstitutionalization, community inclusion and empowerment of people with mental, emotional and physical disabilities have led to a vast increase in the number of individuals requiring rehabilitation services within their local communities. Highly trained professionals are needed to provide services to these individuals in a wide variety of public and private settings.

One of the largest professional specialties serving people with disabilities is rehabilitation counseling. Individuals working in this profession are employed in such settings as state and private rehabilitation agencies, community rehabilitation programs, supervised employment programs, pre- and post-secondary schools, medical and psychiatric hospitals, correctional facilities, community job sites, alcohol and drug treatment centers, community mental health centers, governmental agencies, rehabilitation programs in business and industry, and independent practice.

Students completing a Master of Science degree with a major in rehabilitation counseling from UNT's Department of Rehabilitation, Social Work and Addictions may select from a regional and national supply of job openings.

Research

The Department of Rehabilitation, Social Work and Addictions conducts applied research and program evaluation projects within the department's own rehabilitation laboratories, as well as in rehabilitation field site locations in the Dallas–Fort Worth region and the surrounding five-state region. The department's current research programs focus on substance abuse prevention, poverty, welfare recipients, service delivery within the state vocational rehabilitation system, models of supported employment and community integration, ethnic/cultural populations, quantitative EEG and brainwave biofeedback (neurofeedback) techniques for treatment of mental and physical disorders and addictions, and community rehabilitation programs. Research projects conducted by DRSWA contribute to the improvement of the department's client services, educational programs and the body of knowledge in the fields of vocational rehabilitation, social work and addictions.

DRSWA has administered and participated in numerous projects externally funded through such sources as the U.S. Department of Education, the Texas Council on Developmental Disabilities, the Texas Rehabilitation Commission and the Texas Commission on Alcohol and Drug Abuse.

Admission Requirements

Admission to the master's degree program with a major in rehabilitation counseling is contingent upon admission to the Toulouse School of Graduate Studies. Criteria for admission are detailed in the Admission section of this catalog and include a satisfactory score on the Graduate Record Examination (GRE). For standardized admission test requirements, contact the department or the Toulouse School of Graduate Studies. Applications to the graduate program in rehabilitation counseling are reviewed throughout the year, but students are encouraged to enter the program in the fall term/semester.

All applications should include the following:

1. DRSWA graduate program application;
2. two letters of recommendation, one from a former instructor and the other from an employer;
3. evidence of a work history with the equivalent of one year of full-time employment;
4. a personal interview with DRSWA graduate faculty members; and
5. record of GRE scores on file with the graduate school.

Complete applications are reviewed by the DRSWA graduate faculty, who make recommendations for acceptance of applicants to the program. Acceptance or rejection is determined by composite rather than a single criterion. Students are notified by letter of the faculty's recommendation on their application.

Degree Program

The department offers a graduate program leading to the following degree:

- Master of Science with a major in rehabilitation counseling.

The department offers a doctoral specialization in vocational rehabilitation or neurofeedback through the PhD program in counseling in the College of Education.

Master of Science

The program requires a minimum of 48 semester hours of academic preparation. Interested students may also complete a thesis or problem in lieu of thesis as part of their program of study.

Rehabilitation Curriculum, 48 hours

Course work consists of basic preparatory studies in disability, educational and occupational information, counseling and case management, and the vocational rehabilitation process. The curriculum consists of the following courses.

- RHAB 5250, Topics in Rehabilitation, 3 hours (neurofeedback, private rehabilitation, disability management, etc.)
- RHAB 5700, Introduction to Rehabilitation, 3 hours
- RHAB 5710, Rehabilitation in a Multicultural Society, 3 hours
- RHAB 5715, Disability Issues in Human Development, 3 hours
- RHAB 5720, Rehabilitation Counseling Theories, 3 hours
- RHAB 5721, Rehabilitation Counseling Applications, 3 hours
- RHAB 5723, Group Work and the Rehabilitation Process, 3 hours.
- RHAB 5730, Medical and Psychosocial Aspects of Disability I, 3 hours
- RHAB 5731, Medical and Psychosocial Aspects of Disability II, 3 hours
- RHAB 5740, Rehabilitation Assessment, 3 hours
- RHAB 5741, Employment and Career Development, 3 hours
- RHAB 5742, Case Management and Rehabilitation Services, 3 hours
- RHAB 5770, Rehabilitation Research and Program Evaluation, 3 hours
- RHAB 5811, Practicum in Rehabilitation, 3 hours
- RHAB 5811, Practicum in Neurofeedback, 3 hours
- RHAB 5812, Internship in Rehabilitation, 6 hours
- RHAB 5812, Internship in Neurofeedback, 6 hours
- Electives (selected from: RHAB 5125, 5150, 5250, 5450; LPC required courses; others approved by adviser.)

The student who is lacking basic preparation in any of the above knowledge and skill areas may be

required to complete prerequisite course work or complete individual studies prior to entry into one of the advanced graduate courses.

Interdisciplinary Studies

DRSWA collaborates with faculty in related graduate programs at UNT, such as counselor education and sociology, to offer a Master of Science degree with a major in interdisciplinary studies (MSIS) that meets the individual needs of professionals in this field. More information about the MSIS can be found in the Toulouse School of Graduate Studies section of this catalog.

Graduate Comprehensive Examination

Candidates for the master's degree must pass a final written comprehensive examination over their course of study. In lieu of the departmental comprehensive exam, students may submit a passing score on the national certification exam for rehabilitation counselors (CRC).

Degree Plan Preparation

Students are assigned an academic adviser from among the DRSWA faculty. The academic adviser will assist the student in developing a formal degree plan by the end of the student's second term/semester in the program.

Minors

The rehabilitation counseling curriculum does not usually include a minor, but some students may be able to select a minor.

Program Accreditation and Professional Certification/Licensing

The graduate curriculum in rehabilitation counseling has been designed to satisfy the accreditation standards established by the Council on Rehabilitation Education (CORE) [1835 Rohlwing Road, Suite E, Rolling Meadows, IL 60008; (847) 394-1785]. The DRSWA rehabilitation counseling program is fully accredited by CORE.

Students completing the rehabilitation counseling program are eligible to take the examination for national certification as a rehabilitation counselor (CRC). By taking selected course work within the electives, students can complete academic requirements for one of three other professional credentials. Rehabilitation counseling students may be eligible for licensure as a professional counselor by the Texas State Board of Examiners of Professional Counselors (LPC). Students seeking the LPC are required to complete 3,000 hours of supervised practice and must successfully pass the state licensing examination. Students may also complete academic requirements of the Texas Commission on Alcohol and Drug Abuse for licensure as a Chemical Dependency Counselor (LCDC). The LCDC requires 4,000 hours of approved supervised work experience and successful

completion of a state examination. Finally, students may qualify to take the certification examination of the Biofeedback Certification Institute of America (BCIA) to qualify as a neurofeedback therapist (BCIA-EEG).

Financial Assistance

The Rehabilitation Services Administration (RSA) of the U.S. Department of Education often provides financial support to graduate students in rehabilitation to increase the number of qualified professionals in various rehabilitation counseling occupations. DRSWA occasionally is able to provide RSA stipend assistance to qualified students to support their graduate studies in rehabilitation counseling. The availability of federal stipend support varies from year to year. Inquiries should be made at the time of application to the rehabilitation graduate program.

Social Work

Main Office
Chilton Hall, 218
P.O. Box 311456
Denton, TX 76203-1456
(940) 565-2488

Graduate Faculty: Barton, Evenson, Thomas, Williamson.

A major in social work is not offered at the graduate level. Social work courses, however, may be taken as supporting work for master's and doctoral degrees.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Sociology

Main Office
Chilton Hall, 390
P.O. Box 311157
Denton, TX 76203-1157
(940) 565-2296
Web site: www.unt.edu/soci

David A. Williamson, Chair

Graduate Faculty: Cready, Dash, Esterchild, Lawson, Moore, Rodeheaver, Seward, Williamson, Yancey, Yeatts, Yoder, Zafirovski.

The department offers graduate programs leading to the following degrees:

- Master of Arts,
- Master of Science, and
- Doctor of Philosophy, all with a major in sociology.

Areas of focus include (but are not limited to) social inequality, medical sociology, sociology of the family, and sociology of religion.

In a cooperative agreement with the UNT Health Science Center in Fort Worth, students also may earn a dual degree in public health with a specialty in health services research.

Research

Research in sociology at UNT ranges from studies of individuals within the broader society, such as the study of social inequality and fatherhood, to the study of whole organizations and social institutions such as the study of religion and organizational performance. Faculty routinely obtain research grants from funding sources such as the National Science Foundation, the Department of Health and Human Services and the Commonwealth Fund. Faculty routinely hire graduate students as research assistants.

Degree Programs

Master of Arts, Master of Science

Admission Requirements

1. The applicant must apply for and be granted admission to the Toulouse School of Graduate Studies through the office of the graduate dean and also must apply separately to and be accepted by the sociology program (see departmental web page for details).
2. A score on the verbal and quantitative sections of the Graduate Record Examination (GRE) is required of all applicants.

This score must be filed before final approval of an application can be given.

3. For unconditional admission to the master's program, the applicant must have completed a minimum of 18 hours of sociology; have a grade point average of 3.0 on the last 60 hours of courses for the bachelor's degree and a GPA of 3.0 on all sociology courses; and have acceptable scores on the verbal and quantitative sections of the GRE. See the department's web page or contact the Toulouse School of Graduate Studies for information concerning acceptable admission test scores.
4. The applicant who does not meet some of these requirements may be considered for conditional admission provided substantial alternative evidence of ability to do graduate work is submitted to the program's graduate admissions committee. For conditional admission, the applicant must have a grade point average of 2.8 on the last 60 hours of courses for the bachelor's degree (or a GPA of 2.8 on all undergraduate work); a GPA of 2.8 on all sociology courses; and scores on the verbal and quantitative sections on the GRE. See the department's web page or contact the Toulouse School of Graduate Studies for information concerning admission test scores. Additional course work may be required when the applicant has fewer than the 18 hours of sociology (or their equivalent) required for unconditional admission. The committee may also request additional evidence of the applicant's ability to do graduate work.
5. The graduate admissions committee of the program is responsible for recommending acceptance or rejection of applicants to graduate programs in sociology. Applicants are expected to submit all pertinent materials well in advance of the anticipated date of entering the School of Graduate Studies.

Requirements for Master's Degrees

1. All master's candidates in sociology are required to take SOCI 5150, Contemporary Sociological Theory; SOCI 5200, Seminar on Research Methods and Design; and SOCI 5210, Introduction to Social Statistics; or their equivalents.
2. Students must establish an advisory committee and prepare a degree plan approved by the committee. The candidate's committee is composed of three faculty members with at least two from sociology, one of whom serves as the major professor, and one faculty member from the minor department, which can be sociology. The major and minor professors are appointed before the student prepares the degree plan, and the third member is added at the time of the comprehensive examination. The degree plan and major and minor professors must be approved by the dean of the Toulouse School of Graduate Studies upon recommendation of the student, department chair and graduate adviser.

Thesis Option

1. Of the required minimum of 30 graduate hours for the master's degree, 24 hours must be graduate sociology courses, including a 6-hour thesis.
2. A minor of 6 graduate hours in a related field must be approved by the chair of the sociology department and the student's major professor.
3. Candidates for the Master of Arts degree must present evidence of a reading knowledge of at least one foreign language. (This is not a requirement for candidates for the Master of Science degree.)
4. Successful completion of a thesis and satisfactory performance on the comprehensive examination complete the requirements for the master's degree. The comprehensive exam is principally the candidate's oral defense of his or her thesis but may include related questions on theories, research methods and social statistics used in the discipline. Candidates are eligible to complete the exam after they have established an advisory/thesis committee, had their degree plan approved and completed 21 semester hours of graduate credit toward the degree. The examining board consists of the candidate's three-member advisory/thesis committee.

Non-Thesis Option

1. Of the required minimum of 36 hours for the master's degree, 30 hours must be graduate work in sociology.
2. A minor usually consists of 6 graduate hours, but up to 12 graduate hours may be taken in courses outside of sociology with consent of the department chair and the student's major professor.
3. A total of 6 graduate hours may be earned in SOCI 5940, Sociology Internship.
4. Candidates for the Master of Arts degree must present evidence of a reading knowledge of at least one foreign language. (This is not a requirement for candidates for the Master of Science degree.)
5. Satisfactory performance on the comprehensive examination completes the requirements for the master's degree. The comprehensive exam, as determined by the candidate's advisory committee, is usually oral but may be written or both. The oral exams normally last one and one-half hours and the written exam length varies by format. If the candidate answers the questions without access to books, journals or other written material, the exam usually lasts four hours. If a take home exam, the student is usually allowed two weeks to complete the exam. The exams are principally over, but not limited to, completed course work with an emphasis upon theories, research methods and social statistics used in the discipline. Candidates are eligible to complete the exam(s) after they have established an advisory committee, had a degree plan approved and completed 27 semester hours of graduate credit

toward the degree. The examining board consists of the candidate's three-member advisory committee.

Doctor of Philosophy

The objective of the sociology program is to produce intellectually well-rounded graduates capable of (1) functioning effectively in either an academic milieu or a sociological practice setting, (2) analyzing human social groups and relationships between groups and (3) evaluating the influence of social factors on social situations. All doctoral students are required to study core social theory and social research and may concentrate in a variety of substantive areas including (but not limited to) social inequality, medical sociology, sociology of the family and sociology of religion. UNT houses separate academic departments in applied gerontology and criminal justice, providing doctoral students with the opportunity to concentrate in these additional areas of study. The sociology PhD program participates in a federated program with Texas Woman's University and Texas A&M University–Commerce. Doctoral students are able to take sociology courses at these institutions and apply them to their PhD degree. This further broadens the student's exposure to sociology faculty and substantive areas of study.

Admission Requirements

Students initially must apply to and meet the general admission requirements of the Toulouse School of Graduate Studies at UNT. Applications of students who satisfy the graduate school's admission standards are forwarded for review to UNT's sociology department. The department is responsible for recommending acceptance into the federation doctoral program through UNT. The following requirements must be met for admission.

1. For unconditional admission to the PhD program in sociology, the applicant must have a master's degree; have completed a minimum of 18 hours of sociology, at least 3 graduate semester hours in social research methods, 3 graduate semester hours in social statistics and 3 graduate semester hours of social theory; have at least a 3.5 (B+) GPA for master's courses; and have scores on the verbal and quantitative sections of the Graduate Record Examination (GRE). See the department's web page (www.unt.edu/soci) or contact the Toulouse School of Graduate Studies for information concerning admission test scores.
2. For possible conditional admission, requiring an appeal to the graduate school, the applicant must have a master's degree, at least a 3.0 (B) GPA for all master's credit, acceptable scores on the verbal and quantitative sections of the Graduate Record Examination (see the department's web page or contact the Toulouse School of Graduate Studies for information concerning admission test scores), and substantial

alternative evidence of potential success in graduate studies. Additional course work is typically required when the applicant has fewer than the required number of hours and courses needed for unconditional admission. The sociology department may request additional evidence of the applicant's ability to do graduate work.

3. Outstanding undergraduates without the master's degree who meet all possible unconditional requirements may be considered for conditional admission into the doctoral program.

The dean of the graduate school will notify the applicant of admission to graduate studies and admission to the sociology program. Prior to enrolling for the first term/semester of doctoral work, the student should consult with the department's graduate adviser to schedule courses for that term/semester.

Degree Requirements

1. The minimum program for the PhD in sociology consists of 90 hours beyond the bachelor's degree, plus up to 9 hours of a tool subject; or 60 hours beyond the master's degree, plus up to 9 hours of a tool subject. All students are required to complete:
 - a. a minimum of 12 semester hours in research methods and statistics, including at least two 6000-level courses;
 - b. a minimum of 12 semester hours in sociological theory, including at least two 6000-level courses;
 - c. a minimum of 12 semester hours with a concentration in the student's major area of study, including at least two 6000-level courses;
 - d. a minimum of an additional 12 semester hours in either another sociology concentration area or a related minor field;
 - e. a minimum of 12 semester hours of dissertation;
 - f. a tool requirement which may require 9 hours in tool subjects (e.g., a language, use of SPSS, or courses such as teaching sociology, grant writing, publishing, etc.).
2. Students may earn limited credit in cooperative education or in an internship as part of their PhD course work.
3. Students must complete a research tool requirement. The student must complete 9 graduate semester hours of course work (the tool courses must be recommended by the student's committee and approved by the chair of the department) or demonstrate language proficiency in French, German or Spanish. Substitution of another language may be approved by the graduate dean upon recommendation of the student's advisory committee. The advisory committee may require proficiency in a language when the dissertation research demands it.

4. A student must carry a full load of 9 hours for any two consecutive terms/semesters to fulfill the residency requirement.
5. The student must establish an advisory committee and prepare a degree plan approved by this committee. The advisory committee is composed of four members. At least three, including the major professor or chair, must be from the full-time sociology faculty. One of these may be from the TWU faculty. The fourth faculty member serves as the minor professor, who must represent a second concentration within sociology or a minor outside the program (if a minor is declared). This committee is appointed by the dean of the graduate school upon recommendation of the student, department chair and graduate adviser. In conjunction with approval of the degree plan, the advisory committee may administer a diagnostic review to assist the student in completing the program. The degree plan of the individual student must be completed during the first term/semester of the second year of graduate work or before completion of 18 semester hours in the program and taking the qualifying exams.
6. Qualifying examinations are required of all students. Examinations are written in theory, methods and statistics, and two areas of concentration. The theory, and methods and statistics exams must be taken within or at the completion of the student's first 27 hours of PhD work. The exams are prepared and evaluated by committees composed of faculty from both UNT and TWU. The concentration and minor exams can be taken once the 12-hour course requirement for a concentration has been completed. These exams are prepared and evaluated by the student's advisory committee who may administer an oral examination upon successful completion of all written exams. Preparation for these exams includes, but is not limited to, course work, reading key literature and participation in study groups.
The successful completion of these examinations is a prerequisite for admission to candidacy for the degree. Admission to candidacy is granted by the appropriate graduate dean upon recommendation of the advisory committee and the chair, and also is based upon the student's academic record and successful completion of the tool requirement.
After admission to candidacy, the student must add an outside member to their advisory committee. This fifth member must be from outside the federated sociology department's faculty. This person must be approved by the student's major professor, the department's graduate adviser and the appropriate graduate dean.
7. Under the direction of the advisory committee the candidate must write a dissertation representing original research. It must make a significant contribution to the discipline of sociology in the student's area of concentration.

The student must defend orally a written dissertation proposal that meets with the approval of the student's advisory committee before the dissertation is written. The final written dissertation must be defended orally before the committee and approved by them.

Dual Degree in Sociology/Public Health

The Department of Sociology (UNT) and the School of Public Health (UNTHSC-FW) offer a dual degree program with a specialization in health services research. Students in the program complete a master's or doctoral degree in sociology and the Master of Public Health (MPH). The dual degree program is administered by the Department of Sociology (Contact Dr. Erma Lawson, Program Director, for the current status of this program).

Students must complete either a master's or doctoral degree in sociology, including designated electives in sociology as well as designated electives in the interdisciplinary field of health services research. The designated electives must include the track core requirements (Seminar in the Sociology of Health, Economics of Health Care, Medical Geography and Seminar in Evaluation Research). The master's degree in sociology requires a minimum of 30 hours (thesis option) or 36 hours (non-thesis option); the doctoral degree requires a minimum of 90 hours beyond the bachelor's or 60 hours beyond the master's degree.

To receive the second master's degree in the field of public health, students must complete a minimum of 24 additional hours, including the required MPH core courses (Environmental Health, Principles of Epidemiology, Health Administration, Principles of Public Health, Biostatistics I and II, and Behavioral Epidemiology) and either a thesis or both the capstone course in public health and a special problems course.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

School of Visual Arts

Main Office
Art Building, 107

P.O. Box 305100
Denton, TX 76203-5100
(940) 565-2855

E-mail, Studio: studio@unt.edu
E-mail, Design: design@unt.edu
E-mail, Art Education/Art History: aeah@unt.edu
Web site: www.art.unt.edu

Robert W. Milnes, Dean

Michael Drought, Associate Dean for Academic
and Student Affairs

Don Schol, Associate Dean for Administrative
Affairs

Graduate Faculty: Abel, Adelman, Austin,
Bain, Baxter, Blow, Bourbon, Butt, Chanda,
Cheal, Connelly, D.J. Davis, R. Davis, Doherty,
Donahue-Wallace, Drought, Erdle, Falsetta,
Fisher, Gibbons, Gibson, Gleason, Grable,
Holtin, Jessup, Kazemzadeh, Lawrence, Ligon,
Lopez, Milnes, Mohr, Nacke, Newton, O'Rourke-
Kaplan, Owens, Packard, Phelps, Quinn, Schol,
Shabout, Sprague, Stark, Stidham, Taylor, Walker, Way,
Wilson-McKay.

The School of Visual Arts, with more than 2,400 undergraduate and graduate majors combined, is one of the nation's largest and most comprehensive visual arts programs at a public institution. The school offers degrees in 12 major areas of concentration.

The School of Visual Arts maintains a comprehensive range of professional-level programs in the visual arts for those whose primary interest is art and who intend to make some phase of the scholarship or production of art their life's work. To achieve this, the School of Visual Arts is staffed with faculty dedicated both to quality teaching and to professional achievement as artists and scholars.

Career opportunities for graduates include employment as professional artists and designers, art teachers, professors and administrators. Career options also include work in art museums and galleries and in art-related positions in business and industry. Library holdings in art include major reference tools and microforms, such as the Marburger *Index* and *Index Photographique de l'Art en France*, and comprehensive holdings in art history. Proximity to museum libraries in Dallas and Fort Worth provides access to additional resources.



Teaching fellowships and assistantships are available in all majors. Internships for graduate students may be arranged in communication design, fashion, interior design and museums.

The School of Visual Arts operates as one unit but is organized into divisions based on the following programs.

Art Education and Art History

The division of art education and art history offers the BA and BFA degrees with majors in art history and visual art studies. The MA is offered in the area of art history, and the MA and PhD degrees are offered in the area of art education. The division offers a graduate academic certificate program in art museum education. Students interested in these degrees may contact Dr. Jacqueline Chanda, chair, division of art education and art history of the School of Visual Arts.

Design

The division of design offers the BFA and MFA degrees with majors in communication design, fashion design and interior design. Both the fashion design graduate curriculum and the interior design graduate curriculum focus on the development of creative scholarship. The communication design graduate curriculum is divided into two separate, but related sequences: pedagogy and

studio/research. Students interested in these degrees may contact Cynthia Mohr, chair, division of design of the School of Visual Arts.

Studio

The division of studio offers BFA and MFA degrees with majors in ceramics, fibers, metalsmithing and jewelry, drawing and painting, photography, printmaking, sculpture and watercolor. Students interested in these degrees may contact Jerry Austin, chair, division of studio of the School of Visual Arts.

Graduate students pursuing the MFA with a studio major may apply for individual studios.

Facilities

The School of Visual Arts offers excellent facilities, including a 90,000-square-foot Art Building with classrooms, computer labs, studios, the University Art Gallery, a visual resources library and a 4,400-square-foot workshop. Oak Street Hall comprises photography, ceramics, graduate studios and the Stafford Art Gallery. The Oak Street Annex houses the Print Research Institute of North Texas Press. Scouler Hall houses a computer-aided design lab, fashion design, fibers, and the Texas Fashion Collection, comprising over 10,000 garments. Kendall Hall houses additional graduate studios. Hickory Hall houses printmaking, graduate metals, computer electronic media labs and graduate watercolor.

Research

The School of Visual Arts is staffed with more than 52 full-time and part-time faculty who consistently distinguish themselves at regional, national and international levels. The North Texas Institute for Educators on the Visual Arts, one of the six regional centers for excellence in visual arts education, originally funded in part by the Priddy Foundation, is directed by two of the school's faculty members. Additionally, there is an active visiting artists/scholars program bringing a broad range of workshops and lectures to the campus each year.

Admission Requirements

Applicants must meet requirements for admission to the Toulouse School of Graduate Studies. In addition, the School of Visual Arts requires a portfolio review of all applicants for MFA degrees. The portfolio should consist of 20 slides or digital images of recent artwork, at least 10 of which should be in the student's major area of concentration. Applicants to the MA programs in art history or art education do not have to submit slides; instead they must submit a recent term paper or a sample of professional writing. Applicants to the PhD program in art education must submit at least two samples of academic or professional writing, or one sample of

academic or professional writing and a slide portfolio of approximately 20 appropriately labeled slides of recent artwork. All applicants should submit a brief statement of objectives, a minimum of two letters of recommendation (three letters of recommendation for the PhD program) and scores on the Graduate Record Examination.

Prospective applicants for graduate degree programs must obtain admission forms from the UNT graduate dean and information from the School of Visual Arts. Admission deadlines are as follows:

- Fall term/semester: February 15 (March 15 for art education programs).
- Spring term/semester: October 15

Students are admitted to the MFA in Drawing and Painting in fall terms/semesters only. All required materials must be filed by February 15 preceding the fall term/semester for which the student is applying.

Degree Programs

The school offers graduate programs leading to the following degrees:

- Master of Arts with majors in art education and art history;
- Master of Fine Arts with majors in studio art and design
- Doctor of Philosophy with a major in art education.

Concentrations within the MFA are available in ceramics, communication design, drawing and painting, fashion design, fibers, interior design, metalsmithing and jewelry, photography, printmaking, and sculpture.

Master of Arts

The Master of Arts degree is offered with majors in art education and art history. Students seeking the MA in art history must have completed the equivalent of the Bachelor of Arts with a major in art history as offered at UNT or have demonstrated success in a minimum of 21 undergraduate semester hours of art history course work. Art history majors must demonstrate competency in a foreign language relevant to the chosen area of study in art history prior to undertaking the Research Project. The MA with a major in art history requires

21 hours of course work, of which at least 15 hours must be in art history courses, including 3 hours in ART 5190 (Seminar in Art History). Another 6 hours must be taken either in art history or in a minor field selected in consultation with the major professor. The MA with a major in art history additionally requires 3 hours in research methods, 6 hours in ART 5955 (Research Project), and participation in the graduate colloquium in the semester preceding enrollment in ART 5955.

The MA with a major in art education offers three separate program options. All options require applicants to have completed a bachelor's degree in the visual arts or a related field, to be admitted to the Toulouse School of Graduate Studies, and to have submitted GRE scores. Additional background requirements depend on the option the applicant intends to pursue, as follows:

- **Option I** is designed to enhance the knowledge and expertise of practicing teachers. The program combines theory, practice and research in an effort to develop leaders in the field and requires that applicants have a valid teaching certificate in art.
- **Option II** is designed for those who desire careers as educators in an art museum. The program looks at theories and practices that have impacted art museum education and combines the graduate degree with art museum education certification. Option II applicants must have a minimum of 12 semester credit hours of art history, of which 6 must be advanced.
- **Option III** is designed for those who wish to obtain EC-12 teacher certification in art while acquiring a graduate degree in art education. Option III applicants must have at least 24 semester credit hours of studio work and at least 12 hours of art history, of which 6 must be at the advanced level.

Applicants who do not hold a degree in a visual arts field may be required to take undergraduate leveling courses in the area(s) of deficiency. These courses would have to be completed before beginning any graduate level work in art education.

The MA with a major in art education requires a minimum of 30 semester credit hours of graduate course work for completion of the degree. Because Options II and III include certification, required course work for these options may reach up to a maximum of 42 hours. Specific course requirements depend upon which option is pursued and whether or not the student pursues a thesis. Options I and III may be completed with or without a thesis. Students pursuing Option II must complete a thesis unless special permission has been granted from the division of art education and art history. Any student electing to pursue the non-thesis route must successfully pass a comprehensive exam in the last term/semester of course work.

Master of Fine Arts

A student seeking the Master of Fine Arts must have completed the equivalent of the Bachelor of Fine Arts as offered at UNT. Applicants for the Master of Fine Arts in a design division concentration must hold an earned bachelor's degree in a related field of study and have professional experience in the proposed area of concentration. The Master of Fine Arts requires a minimum of 60 semester hours in art.

Students may pursue a concentration in one of the following: ceramics, communication design, drawing and painting, fashion design, fibers, interior design, metalsmithing and jewelry, photography, printmaking or sculpture.

Studio arts majors must complete a minimum of 30 hours of studio art, including a minimum of 24 hours in their concentration area; 9 hours in art history; 3 hours of Creative Project (ART 5940); 3 hours in MFA Exhibition (ART 5845); and 12 hours of elective credits. Students are urged to take elective credits in a major or minor studio area or in art history, but may take up to 12 hours outside the School of Visual Arts. Each candidate with a concentration in a studio area will prepare an exhibition of work of a quality suitable for presentation to the public.

All design division majors must devote 6 semester hours of credit to a creative project and descriptive paper (ART 5920, ART 5930), according to the field of specialization.

All graduate students on the MFA track in the studio division are required to participate in graduate reviews every term/semester they are enrolled in a studio course until they pass and are admitted to candidacy.

Doctor of Philosophy

The Doctor of Philosophy (PhD) with a major in art education is designed for individuals who wish to teach at the university level or to pursue scholarly inquiry and/or leadership roles in public and private education settings. Applicants to the program must have completed the equivalent of a master's degree in art education and have obtained teacher certification in art. Those who do not hold a master's degree in art education or have never obtained teacher certification may still be accepted to the program but may be required to complete a minimum of 9 semester hours of art education leveling course work.

The program consists of a 24-hour doctoral core of art education courses, 12 hours in a minor field, 6 hours in research methodology, 12 hours of dissertation and the remaining hours in electives for a minimum of 60 credit hours. Proficiency in a foreign language or satisfactory completion of a 6-credit-hour tool subject must also be demonstrated. Tool subject course work is determined in consultation with a student's major professor.

Doctoral degrees are conferred in recognition of scholarship as shown by (1) the satisfactory completion of a prescribed course of study, (2) the ability to function at a professional level in the designated area of major, (3) the completion of examinations showing a satisfactory grasp of the field of specialization and its relation to allied areas and (4) the preparation of a dissertation demonstrating ability to undertake a problem with originality and independent thought. The candidate must earn a minimum of 60 hours of

graduate credit beyond the master's degree and must complete the doctoral residence requirement.

Successful completion of a qualifying examination determines admission to candidacy. Once admitted to candidacy by the dean of the Toulouse School of Graduate Studies, the doctoral student must conduct independent research in the field of specialization and submit a dissertation. The final oral examination will be a defense of the completed dissertation.

For additional information concerning doctoral study in art education, contact the School of Visual Arts, division of art education and art history.

Satisfactory Progress

Each student is expected to make satisfactory progress toward the completion of the doctoral program. Satisfactory progress towards the PhD with a major in art education is defined as the following:

- Degree plan designed and approved prior to the completion of 24 credit hours.
- A 3.0 semester GPA in student's major area (art education) and a 3.0 cumulative GPA.
- All art education courses passed with a grade of B or better.
- Successfully passing written and oral qualifying examination within one year of completion of course work.
- Final dissertation proposal approval obtained one long term/semester after written/oral qualifying exam.
- Dissertation progress reviews – completed by major professor each term/semester.

Should a student not meet any of the above standards, he or she may be counseled, evaluated as unsatisfactory, placed on academic probation and/or dismissed from the program.

Probation

Any PhD student not meeting satisfactory progress will be notified in writing by the division chair. After receipt of notice of probationary status, the student is required to seek formal counseling with his or her PhD major professor to discuss his/her progress. The student will then be given the following long term/semester to correct the situation. The following are criteria for probation:

- Degree plan has not been completed after 24 credit hours.
- Student's GPA falls below a 3.0.
- Student receives a grade of C or lower in any one* art education course.
- Student receives two grades of W in any two courses in the same term/semester.
- Fails or does not take either the written or oral examination within one year of completion of course work.
- Dissertation proposal not approved.
- Student fails to make adequate progress on dissertation.

Dismissal

Any PhD student who does not correct the infraction which caused him or her to be placed on probation within the probationary term/semester will be subject to removal from the program. The division chair will notify the student of his or her dismissal in writing with a duplicate for the student's file and the Toulouse School of Graduate Studies. Such notification will cite the reason(s) for removal.

Any student wishing to appeal his or her dismissal from the doctoral program may petition the Graduate Faculty Committee within 30 days of the notification or attempted notification of the student's removal.

**Note:* Receipt of two or more grades of C or lower in any two art education courses, whether in the same term/semester or in separate terms/semesters, is an automatic cause for dismissal from the program.

Graduate Academic Certificate Art Museum Education

In cooperation with the Toulouse School of Graduate Studies, the School of Visual Arts division of art education and art history offers a graduate academic certificate in art museum education. The graduate academic certificate in art museum education is intended to provide professional training for post-baccalaureate students who desire careers in areas of art museum education or expertise in the use of art museums as educational resources. Those who complete the program will possess the skills to develop and implement education programs for art museum audiences of varied ages and backgrounds.

The program consists of 18 credit hours, which includes a 6-credit-hour museum internship. The graduate academic certificate may be pursued on its own or in conjunction with a graduate degree program in the School of Visual Arts.

Eligibility for the program is extended to those who meet at least one of the following academic requirements: (1) be a current student enrolled in a UNT graduate degree program in art education, art history or studio, (2) hold a bachelor's degree with at least 12 credit hours of post-baccalaureate graduate studies, or (3) hold a master's or doctoral degree in art education, art history, studio or related field. Contact the division of art education and art history for application information.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Honors College

Main Office
General Academic Building, 309A
P.O. Box 310529
Denton, TX 76203-0529
(940) 565-3305
Fax: (940) 369-7370
E-mail: honorscollege@unt.edu
Web site: www.unt.edu/honors

Gloria C. Cox, Dean

Susan B. Eve, Associate Dean

Introduction

The Honors College, established in 2005, is dedicated to academic excellence and intellectual growth for the talented and motivated undergraduate students who hold membership. Through the challenging and supportive environment of honors classes and special programming, members of the Honors College community can build a broad educational foundation in preparation for studying at the graduate level, establishing a career, and meeting the demands of responsible citizenship.

Membership in the Honors College is compatible with every undergraduate major and program at the University of North Texas. Whether the student is pursuing a degree in engineering, biology, music performance or any other major at UNT, he or she will want to consider membership in the Honors College. In addition, most honors courses fulfill University Core Curriculum requirements, making Honors College membership even more appealing. Membership in the Honors College is secondary to membership in the college or school of the student's major, and students in the Honors College can choose from among several levels of participation and recognition.

Courses of Instruction

See *Undergraduate Catalog* for Courses of Instruction.

UNT/UNT Health Science Center Cooperative Programs

Graduate faculty of the Graduate School of Biomedical Sciences and the School of Public Health at the University of North Texas Health Science Center at Fort Worth (UNTHSC-FW) are also members of the graduate faculty of the University of North Texas and thus can serve as mentors or committee members of UNT graduate students appropriate to their graduate appointment. See the *UNTHSC-FW Graduate Catalog* for UNTHSC-FW graduate faculty listings.

Graduate School of Biomedical Sciences

University of North Texas Health Science Center at Fort Worth (UNTHSC-FW)
Education and Administration Building, 816

3500 Camp Bowie Boulevard
Fort Worth, TX 76107
(817) 735-2560 or (800) 511-GRAD (511-4723)

E-mail: gsbs@hsc.unt.edu
Web site: www.hsc.unt.edu

Thomas Yorio, Dean of the Graduate School of Biomedical Sciences

Graduate Advisers:

Wolfram Siede, Cell Biology and Genetics
Alakananda Basu, Biochemistry and Molecular Biology
Jamboor Vishwanatha, Biomedical Sciences and Biotechnology/Premedical Science
Rustin Reeves, Science Education
Fred Downey, Integrative Physiology
Porunelloor Mathew, Microbiology and Immunology
Meharvan Singh, Pharmacology and Neuroscience
John Licciardone, Clinical Research and Education (Osteopathic Manipulative Medicine Specialty)
John V. Planz, Forensic Genetics
Susan Franks, Health Psychology
Roberto Cardarelli, Clinical Research and Education (Family Medicine Specialty)

Doctoral degrees culminate with a specialization in cell biology and genetics, biochemistry and molecular biology, biomedical sciences, microbiology and immunology, pharmacology and neuroscience, or integrative physiology. Master's degrees are also offered in these areas, as well as in the areas of science education, biotechnology, and forensic genetics. Post-baccalaureate certification in premedical science is also available.

Joint degrees (DO/MS, DO/PhD, PA/PhD and MPH/PhD) are available to students admitted to the Texas College of Osteopathic Medicine and/or the School of Public Health at UNT Health Science Center. Specialized dual degree programs train DO/MS students in clinical research and education in either osteopathic manipulative medicine or family medicine.

To obtain further information or to request a catalog, please call (817) 735-2560 or (800) 511-GRAD [511-4723], e-mail gsbs@hsc.unt.edu, or visit www.hsc.unt.edu.

School of Public Health

University of North Texas Health Science Center at Fort Worth (UNTHSC-FW)
Education and Administration Building (EAD),
7th Floor

3500 Camp Bowie Boulevard
Fort Worth, TX 76107
(817) 735-2401 or (877) 868-7741

E-mail: sph@hsc.unt.edu
Web site: www.hsc.unt.edu

Fernando Treviño, Dean of the School of Public Health

Chairs:

Eric Johnson, Chair, Department of Epidemiology
Eric Johnson, Chair, Department of Environmental and Occupational Health
M. Harvey Brenner, Chair, Department of Social and Behavioral Sciences
Karan Singh, Chair, Department of Biostatistics
Jeffery Talbert, Chair, Department of Health Management and Policy
Diane Wynn, MEd, Director, Office of Student and Academic Services

Program of Study

The School of Public Health currently offers master's- and doctoral-level course work in public health. The MPH degree program is a 45 semester credit hour (SCH) program that includes a core curriculum of six courses (totaling 18 credit hours), in which public health students are provided an overview in biostatistics, community health, epidemiology, environmental health, and health management and policy. The goal of the DrPH program is to prepare students for leadership roles in the professional practice of public health in governmental, private and not-for-profit organizations.

MPH students are required to complete 21 credit hours in their chosen concentration and an additional 6 credit hours in their thesis/non-thesis requirements. Every student will also go through a hands-on public

health practice experience in a community setting, such as a public health department or a volunteer agency.

DrPH students complete more extensive course work and research within their chosen concentration. Every student is required to participate in a weekly journal club and must complete a comprehensive research project that culminates in the dissertation.

The objectives of the MPH and DrPH programs are to prepare students to meet the needs of the growing health care industry and the demand for trained public health workers in the public sector. Students in this program have the added benefit of interacting with health care providers and students in the osteopathic medical program at the Health Science Center, as well as faculty engaged in significant public health research at both the UNTHSC-FW and UNT campuses.

Career Opportunities

Today, public health is the umbrella over many issues, including some that seem unrelated to health care but that ultimately influence it. Public health ranges from the study of smog in the air we breathe to gang intervention programs on our neighborhood streets. Growing threats from our environment, the resurgence of infectious diseases, increasing violence, an aging population and the escalating costs of health care are all immediate concerns of public health professionals.

Public health professionals monitor and evaluate the health needs of entire communities, promote healthy practices and behaviors, and work to identify and eliminate environmental hazards to assure our population remains healthy. They are employed by government, hospitals, health systems, universities and many private companies. Without public health, our society could not advance. With it, we are making a difference.

Department of Environmental and Occupational Health

Environmental Health (MPH): Designed for students with varied backgrounds and interests, who desire careers related to the environmental aspects of public health. Specifically, the track provides the expertise and experiences to analyze, monitor, interpret and mitigate the effects of chemical contaminant and microbial and viral pathogens in water, air, soil and food on public health and ecological health.

Occupational Health (MPH): This track is oriented to applied occupational health program design, development, management, and other applications in an occupational health setting. Graduates will understand public health policies and practices, will be able to design, to manage and to analyze occupational health data. The student will also have the opportunity to learn about applied occupational

health practice by participating in such practice in a variety of occupational health settings. Students will also gain biostatistical knowledge and skills applicable to planning and conducting biostatistical research as independent researchers or as members of research teams in occupational health settings.

Department of Epidemiology

Epidemiology (MPH): Designed for students seeking technical skills in the fundamental methods of disease investigation and prevention in large populations. Courses emphasize basic and advanced epidemiologic principles and their application to current problems in public health and related disciplines.

Epidemiology (DrPH): Provides students with the expertise and experience to plan, develop and evaluate epidemiological surveillance systems. Students will also gain epidemiologic knowledge and skills to be able to plan and conduct applied epidemiologic research as independent researchers or as members of research teams.

Department of Biostatistics

Biostatistics (MPH): Designed to train public health professionals to engage in biomedical research, data management and data analysis. Emphasis is on the methodology and applications of contemporary statistical procedures and research designs, using advanced computing technology. Students will also develop the theoretical competency to understand and apply information published in statistical journals.

Clinical Research (MPH): The program is for professionals who wish to prepare for roles in clinical research, health care research, medical database management or statistical consulting in medical or public health settings. This MPH concentration is oriented toward applied clinical research, outcome measurement and applied biostatistics.

Biostatistics (DrPH): Designed for health professionals that want to develop their careers in academia, public health institutions and health care facilities as it relates to applied Biostatistics. The graduate of this program will understand public health policies and practices, will identify key elements of quantitative nature for decision-making, and will be able to plan and evaluate health systems and public health programs by using biostatistical methodology.

Department of Health Management and Policy

Health Management and Policy (MPH): Provides students with the competencies necessary for administrative management or policy careers within the healthcare field. The curriculum addresses health systems, quantitative methods,

health economics and finance, managed care, health policy, health law and other areas central to the management, planning and evaluation in both private and public sectors.

Health Informatics (MPH): Oriented toward applied data processing and applications, health information system design and development, and other applied informatics in health care settings, this concentration prepares students for work related to clinical data management; health systems evaluation, development and analysis; geographic information systems (GIS) applications in health; and telemedicine or telehealth in medical or public health settings.

Health Management and Policy (DrPH): Graduates will understand and apply skills relevant to health policy development and analysis, management practices and health services research. Residency experience and research will allow students to analyze and propose solutions to health management or policy problems by applying new theoretical or analytic advances to current problems in health care.

Department of Social and Behavioral Sciences

Community Health (MPH): A broadly applicable program emphasizing skills relevant to today's public health professionals, including community assessment, program planning and evaluation and health education interventions. This curriculum emphasizes strategies for the promotion of health and the prevention of disease in populations through public health policy and interventions in the context of social structure, community, family and health care systems. The track prepares professionals with a variety of disciplinary backgrounds (medicine, nursing, social work, nutrition, dentistry, health education, health promotion, etc.) and can be tailored to an individual's previous experience and professional goals.

Health Interpreting and Health Applied Linguistics (MPH): The HIHAL track is the only program in the United States to prepare students from a variety of disciplinary backgrounds and interests – including language and linguistics (e.g., translation and interpretation studies; applied linguistics; language studies), and health sciences (e.g., public health, medicine, nursing, etc.) – to assume positions as professional health interpreters, linguistic researchers and leaders in the field of health applied linguistics. Students will explore the interrelationship between language and health, and will delve into the complex relationship that exists between language and disease. They will develop competencies in language research in health settings, and will receive extensive training as health interpreters, and, in some cases, as health writers and translators.

Social and Behavioral Sciences (DrPH): Designed for social and health professionals that want to prepare themselves for research, teaching and other

leadership positions involving the design, development and evaluation of public health programs, as well as the application of social and behavioral sciences to the development of intervention strategies for health promotion and disease prevention. The concentration courses include quantitative and qualitative research methods as applied to social and behavioral sciences in public health while relying on theoretical perspectives in sociology and psychology. Students may also further develop their training in medical anthropology, health education, community health, social marketing and health communication taking further elective course work and research.

Dual Degree Programs

DO/MPH: This five-year dual degree program provides DO students at the Texas College of Osteopathic Medicine (TCOM) with specialized public health training to develop, integrate and apply culturally competent social, psychological and biomedical/public health approaches to the promotion and preservation of health in one's community.

Sociology (MPH/PhD): This dual degree program is offered jointly by the UNTHSC/School of Public Health and the Department of Sociology at the University of the North Texas in Denton. Students complete requirements for either a master's or doctoral degree with a major in sociology and an MPH. Students interested in this dual degree program must concurrently apply to the School of Public Health and UNT's Toulouse School of Graduate Studies. Each school utilizes different applications, has its own application/admission requirements and has different application deadlines. The applicant must be admitted to both programs before officially being deemed a dual degree student in this program.

Medical Anthropology (MPH/MA): These concurrent degree programs are offered by the UNTHSC/School of Public Health and the Department of Anthropology at the University of North Texas in Denton. Students complete requirements for both a master's degree with a major in applied anthropology and an MPH. Students interested in this dual degree program must concurrently apply to the School of Public Health and UNT's Toulouse School of Graduate Studies. Each school utilizes different applications, has its own application/admission requirements and has different application deadlines. The applicant must be admitted to both programs before being officially deemed a dual degree student in this program.

Entrance Requirements

The School of Public Health maintains a system of departmental admissions. Therefore, the admissions criteria may vary from department to department. In general, students must demonstrate a desire for a

career in public health, an understanding relative to the particular area of study they wish to pursue and the cognitive capacity to master the material necessary to obtain the MPH or DrPH degree.

Application Procedure

To be considered for admission to the MPH or DrPH programs (including dual degree programs offered by UNTHSC and UNT-Denton) contact the University of North Texas Health Science Center/ School of Public Health at (817) 735-2401, toll-free at (877) 868-7741 or via e-mail at sph@hsc.unt.edu for an admissions application. The completed application should be submitted along with:

- a statement of professional or career goals;
- a resume or curriculum vita;
- official GRE scores from the Educational Testing Service;
- complete official transcripts from all colleges and universities attended;
- a non-refundable admission application fee of \$25 for U.S. residents or \$75 for non-U.S. citizens and permanent residents;
- two letters of recommendation (or completed confidential evaluation forms) by individuals in a position to comment on your potential as a graduate student and future professional;
- international applicants must submit documented proof of financial resources; and
- international students may need to submit official TOEFL scores from ETS or show proof of English proficiency.

Courses of Instruction

All Courses of Instruction are located in the UNTHSC-FW catalog.

Courses of Instruction

How to Read Courses of Instruction

Course Listings

All courses of instruction are listed alphabetically. If more than one area of instruction exists within a unit, courses are listed alphabetically within that unit. Additionally, they appear in the straight alphabetical listing with a reference back to the unit.

Use the **Course and Subject Guide** located before the **Course Listings** to find courses quickly. Select prefix under Prefix/Subject Code column and find the page number in the last column. If the Prefix/Subject Code is unknown, examine the Courses of Instruction column for interest area and page number.

Course Numbers

Senior courses, 4000-4999

Graduate courses, 5000 and above

Special Problems courses are used upon approval of the department chair or dean for individual instruction in any department to cover course content in special circumstances. Courses 5900, 5910, 5920 and 5930 are used in any department that offers graduate work; courses 6900 and 6910 are used in any department that offers doctoral work.

General Course Information

Individual courses of instruction are subject to change or withdrawal at any time and may not be offered each term/semester or every year. Any course may be withdrawn from current offerings if the number of registrants is too small to justify conducting the course. Students interested in a particular course during a particular period should inquire in advance and/or consult the applicable *Schedule of Classes*.

Figures in parentheses following the course credit hours indicate the number of clock hours per week devoted to lecture and laboratory. When it appears, the third and final number in these parentheses indicates the number of recitation hours per week.

Specific information regarding courses within a particular department is located immediately before the course listings.

A given course may not be taught ever term/semester or even every year. Consult the *Schedule of Classes* online (www.unt.edu/catsched) for the most up-to-date information concerning course offerings.

The graduate student enrolled in a 5000-level course that meets with a senior-level undergraduate course will be expected to complete additional requirements beyond those expected of undergraduates in the same course.

How to Read Course Descriptions

Note: A sample has been compiled to identify different components of the course description and does not accurately reflect an existing course. Explanations are given below the example. Not all course descriptions include every component shown in the following example.

Example from Catalog:

Music

Courses that may be repeated for credit are MUAG 5000, 5390, 5640, 5660, 5800, 5810, 58580, 5860, 6440, 6850; all courses in MUAM, MUAC, and MUAS.

Music Applied General Courses, MUAG

5420. Harpsichord Literature and Pedagogy. 3 hours. (3;1;1) Harpsichord literature from the mid-17th century to the present, including the music of Bach. Survey of major composers, styles, forms and ensemble literature; construction and design of appropriate instruments. Performance practices are thoroughly explored. Pedagogical principles are applied to repertoire. Individual research projects. Corequisite(s): MUAG 5410. Prerequisite(s): consent of college.

Explanation of Example:

In this example, the first paragraph gives specific information regarding courses within a particular department. **Music Applied General Courses, MUAG** represents the course prefix. **5420** is the course number. **Harpsichord Literature and Pedagogy** is the name of the course. **3 hours** represents the number of semester hour credits earned. **(3;1;1)** shows that 3 hours will be spent in lecture, 1 hour will be spent in laboratory, and 1 hour will be spent in recitation. **Harpsichord literature from the mid-17th century to the present, including the music of Bach. Survey of major composers, styles, forms and ensemble literature; construction and design of appropriate instruments. Performance practices are thoroughly explored. Pedagogical principles are applied to repertoire. Individual research projects** is the course description and general comments regarding the course. **Corequisite(s): MUAG 5410** shows that MUAG 5410 must be completed before or while enrolled in MUAG 5420. **Prerequisite(s): consent of college** explains that the consent of the college must be obtained prior to enrolling in MUAG 5420.

Course and Subject Guide

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Courses of Instruction	Prefix/ Subject Guide	Department/Division/School/College	Page
Accounting	ACCT	Accounting	307
Aerospace Studies	AERO	Aerospace Studies (<i>Undergraduate Courses Only</i>)	
Anthropology	ANTH	Anthropology	309
Applied Economics	AECO	Applied Economics	310
Applied Gerontology	AGER	Applied Gerontology	310
Applied Technology, Training and Development	ATTD	Technology and Cognition	405
Arabic	ARBC	Foreign Languages and Literatures (<i>Undergraduate Courses Only</i>)	
Archaeology	ARCH	Geography	349
Art	ART	Visual Arts	313
Astronomy	PHYS	Physics (<i>Undergraduate Courses Only</i>)	
Behavior Analysis	BEHV	Behavior Analysis	314
Bilingual and ESL Education	EDBE	Teacher Education and Administration	398
Biochemistry	BIOC	Biological Sciences	316
Biological Sciences	BIOL	Biological Sciences	317
Business Administration – Interdepartmental	BUSI	Business Administration	321
Business Computer Information Systems	BCIS	Information Technology and Decision Sciences	351
Business Law	BLAW	Finance, Insurance, Real Estate and Law	344
Chemistry	CHEM	Chemistry	322
Chinese	CHIN	Foreign Languages and Literatures (<i>Undergraduate Courses Only</i>)	
Communication Studies	COMM	Communication Studies	324
Community Service	COMS	Public Affairs and Community Service	391
Computer Education and Cognitive Systems	CECS	Technology and Cognition	406
Computer Science/Computer Engineering	CSCE	Computer Science and Engineering	325
Construction Engineering Technology	CNET	Engineering Technology (<i>Undergraduate Courses Only</i>)	
Counseling	COUN	Counseling, Development and Higher Education	329
Criminal Justice	CJUS	Criminal Justice	335
Dance	DANC	Dance and Theatre	336
Decision Sciences	DSCI	Information Technology and Decision Sciences	353
Development, Family Studies and Early Childhood Education	DFEC	Counseling, Development and Higher Education	331
Economics	ECON	Economics	337
Educational Administration and Supervision	EDAD	Teacher Education and Administration (<i>Graduate Courses Only</i>)	398
Educational Curriculum and Instruction	EDCI	Teacher Education and Administration (<i>Graduate Courses Only</i>)	400
Educational Foundations (Support Courses)	EDUC	Teacher Education and Administration	401
Educational Psychology	EPSY	Technology and Cognition (<i>Graduate Courses Only</i>)	408

Courses of Instruction	Prefix/ Subject Guide	Department/Division/School/College	Page
Educational Research	EDER	Technology and Cognition (<i>Graduate Courses Only</i>)	409
Electrical Engineering	EENG	Electrical Engineering	339
Electronics Engineering Technology	ELET	Engineering Technology	340
Elementary Education	EDEE	Teacher Education and Administration	401
Emergency Administration and Planning	EADP	Public Administration (<i>Undergraduate Courses Only</i>)	
Engineering	ENGR	Engineering Technology (<i>Undergraduate Courses Only</i>)	
Engineering Technology (Master's)	MSET	Engineering Technology (<i>Graduate Courses Only</i>)	340
English	ENGL	English	341
Finance	FINA	Finance, Insurance, Real Estate and Law	345
French	FREN	Foreign Languages and Literatures	346
General Engineering Technology	GNET	Engineering Technology (<i>Undergraduate Courses Only</i>)	
Geography	GEOG	Geography	349
Geology	GEOL	Geography (<i>Undergraduate Courses Only</i>)	
German	GERM	Foreign Languages and Literatures	347
Health Promotion	HLTH	Kinesiology, Health Promotion and Recreation	356
Hebrew	HEBR	Foreign Languages and Literatures (<i>Undergraduate Courses Only</i>)	
Higher Education	EDHE	Counseling, Development and Higher Education (<i>Graduate Courses Only</i>)	333
History	HIST	History	350
Honors Courses	HNRS	Honors (<i>Undergraduate Courses Only</i>)	
Human Service Management and Leadership	HSML	Public Affairs and Community Service (<i>Undergraduate Courses Only</i>)	
Information Science	INFO	Library and Information Sciences (<i>Graduate Courses Only</i>)	364
Information Science	SLIS	Library and Information Sciences	359
International Studies	INST	Political Science (<i>Undergraduate Courses Only</i>)	
Italian	ITAL	Foreign Languages and Literatures (<i>Undergraduate Courses Only</i>)	
Japanese	JAPN	Foreign Languages and Literatures (<i>Undergraduate Courses Only</i>)	
Journalism	JOUR	Journalism	354
Kinesiology	KINE	Kinesiology, Health Promotion and Recreation	356
Kinesiology/Health Promotion	KHPM	Kinesiology, Health Promotion and Recreation (<i>Graduate Courses Only</i>)	358
Language	LANG	Foreign Languages and Literatures	348
Latin	LATI	Foreign Languages and Literatures (<i>Undergraduate Courses Only</i>)	
Library and Information Sciences	SLIS	Library and Information Sciences	359
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A given course may not be taught every term/semester or even every year. Consult the *Schedule of Classes* online (www.unt.edu/catsched) for the most up-to-date information concerning course offerings.

The graduate student enrolled in a 5000-level course that meets with a senior-level undergraduate course will be expected to complete additional requirements beyond those expected of undergraduates in the same course.

Accounting

Accounting, ACCT

5020. Accumulation and Analysis of Accounting Data.

1.5 hours. Provides an understanding of accounting procedures and concepts utilized by management in making decisions. Basic concepts and techniques of accounting; the role of an accounting system in business operations and management; preparation and interpretation of financial reports. This course meets the deficiency requirement in accounting for MBA candidates and may be counted as part of a graduate program in a field other than business administration.

5110. Fundamentals of Accounting Research. 3 hours.

Designed to develop student skills in recognizing accounting problems and isolating relevant issues; to develop student skills in generating documentary support and arguments for an acceptable solution to complex accounting problems; to enhance student skills in effectively organizing and communicating, in written and oral form, proposed solutions to accounting problems; and to familiarize students with contemporary accounting practice. Prerequisite(s): ACCT 4400 or consent of instructor.

5120. Using Information Systems in Accounting. 3 hours.

Designed to develop student understanding of the role of accounting information systems and their functions in business. Students develop computer skills in applications for all accounting disciplines. Upon the completion of the course, students understand how accounting information systems facilitate the accomplishment of strategic and operational objectives within the organization. Prerequisite(s): ACCT 4400 or consent of instructor.

5130. Accounting for Management. 3 hours. Designed to provide an understanding of managerial accounting data in making business decisions. Cases, readings and projects are used to examine a wide variety of managerial topics. Prerequisite(s): ACCT 5020; ECON 5000; MATH 1190 or 1400; BCIS 5090 (2610, 3610); MSCI 5010 (3700, 3710). For students not seeking a BS or MS with a major in accounting.

5140. Advanced Accounting Analysis. 3 hours. Advanced topics in financial accounting and reporting, including business combinations and consolidations, international accounting and monetary translation, governmental accounting and fiduciary accounting. Prerequisite(s): ACCT 3110, 3120 and 3720.

5150. The Development of Accounting Theory. 3 hours. The theory of accounting as it has developed in the economy of the United States. Particular emphasis on concepts, income measurement, valuation of assets, and valuation and measurement of equities. Application of accounting theory to contemporary problems is analyzed by cases and research papers on selected areas. Prerequisite(s): consent of department.

5160. Issues in Financial Accounting and Standard Setting. 3 hours. Advanced accounting concepts and standards with emphasis on income determination, including legal, economic and accounting views of the income concept. Development of criteria for evaluating and applying theoretical concepts, particularly as they apply to current controversial questions in accounting. Prerequisite(s): ACCT 5120 (3120, 3270); ECON 5000; MATH 1190; BCIS 5090 (2610, 3610).

5180. Topics in Financial Accounting. 3 hours. A seminar in new topics and areas of current interest to students of financial accounting. Prerequisite(s): consent of department. May be repeated for credit.

5250. Strategic Cost Management. 3 hours. The role and scope of the strategic cost management function (management accounting) within organizations is changing rapidly. New cost management tools provide organizations with information for decision making and control in an international marketplace. These tools directly incorporate organization strategy and focus on process understanding. The course typically includes readings, cases and discussion of planning and budgeting, activity based concepts, target costing, performance measurement, quality and environmental cost management. Specific topics will vary. Prerequisite(s): ACCT 3270 or 5130.

5270. Managerial Cost Accounting. 3 hours. Accumulation, analysis and interpretation of accounting data relevant to purposes of managerial decision making; profit planning and control, and application of mathematics and statistics to accounting analysis. Prerequisite(s): ACCT 3270 or 5130.

5300. Federal Taxation of Income. 3 hours. Introduction, problems of tax bases and rates; history of federal income tax; determination of federal income tax base and application of rates; the basic compliance requirement. The impact and effect of tax laws on the social and economic environment. Prerequisite(s): consent of department.

5310. Tax Research and Administrative Procedure. 3 hours. Objectives are to develop the technical skill to identify tax situations, isolate the tax issue and develop the documentary support and arguments for acceptable solutions to complex tax problems. Upon completion of the course, the student will be able to use the major tax services and prepare a tax memorandum that communicates as completely as possible the tax problems of a practical situation. Also included are the procedural processes for representing a taxpayer before the Internal Revenue Service and the requirements for filing a tax return. Prerequisite(s): ACCT 5300 (4300).

5320. Taxation of Corporations, Partnerships and Fiduciaries. 3 hours. An overview of federal tax laws governing C corporations, S corporations, fiduciaries and partnerships. Explanations of how these entities are used in tax planning. A case method course for MS candidates not planning to specialize in taxation. Prerequisite(s): ACCT 4300 or 5130.

5330. Taxation of Corporations and Shareholders. 3 hours. A comprehensive study of rules governing the taxation of corporations and the related problems of corporate shareholders. Emphasis is on the use of corporate tax planning. Some important topics covered are formation of corporations; planning the capital structure to minimize taxes; distributions to shareholders, particularly distributions that receive capital-gains treatment; and corporate reorganizations. Numerous cases are used in the course to improve research skills and the preparation of written reports. Prerequisite(s): ACCT 5300 (4300) and 5310. ACCT 5310 may be taken concurrently.

5360. Advanced Topics in Federal Taxation. 3 hours. This course, through varying subtitles, is offered in the MS with a major in accounting program. Provides the opportunity for thorough coverage of selected topics that will vary depending on the needs of students, changes in tax policy and practice, and faculty resources. Subtitles may include Partnerships and S Corporations, Advanced Corporate Taxation, and Tax Reform. Prerequisite(s): 5300 (4300) and 5310. Also ACCT 5330 when taught as Advanced Corporate Taxation. ACCT 5310 may be taken concurrently.

5370. Family Tax Planning and Contemporary Topics. 3 hours. Federal estate and gift taxes are analyzed in the first half of the course. Special attention is given to techniques for disposing of wealth to minimize taxes. Estate planning and return preparation cases are assigned. In the second half of the course, international and state and local taxes, compensation planning, exempt organizations, fiduciary income taxation and passive activity losses are analyzed. Prerequisite(s): ACCT 5300 (4300) and 5310. ACCT 5310 may be taken concurrently.

5410. Audit — Investigative Process. 3 hours. The complete cycle of the investigative process known as auditing is covered from evaluation of the business, through study and evaluation of internal control, to corroborative evidence on the details of account balances. Topics include flow-charting, testing planning, use of statistical sampling, computer controls and management audits. Actual experience is gained through an extended case where an audit is performed by student teams. Prerequisite(s): ACCT 4400.

5430. Auditing — Special Problems. 3 hours. A course reserved for in-depth study of particular problems in auditing. The topics change to cope with the dynamic nature of the profession. Specific topics can be offered on a part-term/semester or term/semester basis. Prerequisite(s): ACCT 5410.

5440. EDP Control and Auditing. 3 hours. The use of the computer to process transactions imposes a new environment and a new set of problems for the auditors, independent and internal. Controls and audit techniques to evaluate these controls are emphasized. The use of the computer as an audit tool is introduced through actual operation of Generalized Audit Software such as is currently used in practice. Additional topics covered include computer fraud, security measures and controls in advanced online, teleprocessing systems. Prerequisite(s): ACCT 4100 and 4400; or consent of department.

5450. Seminar in Internal Auditing. 3 hours. A study of the theory and practice of internal auditing. The course examines the difference between internal and external auditing, focusing on such issues as independence, audit scope, reporting and human relations. Specific internal audit topics include operational auditing, audit administration, planning and supervision, and internal audit reporting. Prerequisite(s): ACCT 4100 and 4400; or consent of department.

5470. Auditing — Advanced Theory. 3 hours. A conceptual approach to the auditing process, stressing the interrelations of objectives, standards, techniques and procedures. Current topics, including significant legal cases, are included. Prerequisite(s): ACCT 5410; ACCT 5800 is recommended.

5520. Government and Other Non-Profit Accounting. 3 hours. Critically examines current issues in financial accounting, management control and auditing for government and other non-profit organizations. Prerequisite(s): consent of department.

5630. Accounting Systems and Controls. 3 hours. A comprehensive study of computerized managerial accounting systems. Major topics include: role of accounting systems

in managerial planning and control (decision making), application of computers in accounting systems, role of the managerial accountant in technology management. Prerequisite(s): ACCT 3270 or 5130, 4100; or consent of department.

5640. Current Topics in Accounting Information Systems. 3 hours. Acquaints students with current topics related to accounting information systems. Current topics will be selected by the instructor and may include, but will not be limited to, the following: accounting issues involving Enterprise Resource Planning software packages, the accountant's role in electronic commerce and forensic auditing. Instruction may include cases and/or lecture format. The course is structured to enhance the ability of students to think critically and to develop the knowledge, skills and attitudes necessary to compete effectively in the rapidly changing world of information technology. Intended for those interested in new and emerging areas of accounting information systems. Prerequisite(s): ACCT 4100 or 6 hours of BCIS above the 3000 level.

5641. Current Electronic Commerce Topics in Accounting Information Systems. 1.5 hours. Part of the electronic commerce track of the MBA program. Discussion addresses how electronic commerce is employed in the field of accounting, how the issue of e-com changes and challenges accounting information systems, control issues arising from the use of e-com in AIS, and methods for controlling these risks. Prerequisite(s): students should complete a packet of materials prior to the first day of class. Contact the department for materials.

5710. Petroleum Accounting. 3 hours. An introduction to the oil and gas industry and the specialized financial accounting procedures associated with the industry. Areas emphasized include exploration, leasing, drilling, producing, amortization conveyances, joint interests, unitizations, carried interests, and partnerships and special gas contracts. Prerequisite(s): ACCT 3120, 3270 or 5130; BLAW 5050.

5760. Contemporary Issues in Accounting. 3 hours. Utilization of strategic and critical thinking skills to investigate accounting issues. Through the analysis of intra-disciplinary cases, students show that they have the relevant research skills and technological sophistication to access, evaluate and interpret relevant information needed for decision making. Prerequisite(s): ACCT 5110 and 5120; student must be in last term/semester of graduate course work.

5800. Internship. 3 hours each. A supervised productive and educationally meaningful work experience in a job related to the student's career objective. Prerequisite(s): meet employer's requirements and have consent of department chair. May be taken as a free elective.

5890. International Accounting. 3 hours. Integrates the functional areas of accounting and the functional areas of business administration in a global decision making framework. Cross-functional and global approaches to organizational issues are emphasized. The course is structured to enhance the ability of students to think critically and to develop knowledge, skills and attitudes necessary to compete effectively in the global perspectives on accounting, environmental, social and political influences on accounting, accounting information systems in a multinational enterprise, performance evaluation in a multi-national enterprise, comparative international analysis of financial statements and the exploration of timely topical issues related to international accounting. Prerequisite(s): ACCT 5130.

5900-5910. Directed Study. 3 hours each. Topic chosen by the student and developed through meetings and activities under the direction of the instructor; activities include required, regular participation in a specified 4000-level class. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Advising Office prior to registration.

6010. Seminar on Advanced Topics in Accounting Research. 3 hours. Covers one or more special fields. Topics covered in this course depend on the needs of the students enrolled each term/semester. Prerequisite(s): consent of department.

6190. Seminar on Theory Development and Theory Formulation. 3 hours. Explores theory formulation and development in disciplines related to accounting; evaluates the ontological, epistemological and methodological structure of contemporary accounting research and critically examines the adequacy of contemporary research from a historical perspective. Prerequisite(s): doctoral status and consent of instructor.

6290. Seminar on Behavioral Research in Accounting. 3 hours. Critically examines behavioral theories as well as methods and their application to accounting research. The course draws on cognitive psychology and accounting literature. Prerequisite(s): doctoral status and consent of instructor.

6900-6910. Special Problems. 1–3 hours each. Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs, accompanied by conferences with professors in fields involved. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Advising Office prior to registration.

6940. Individual Research. 1-12 hours. Individual research for the doctoral candidate. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Advising Office prior to registration.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Advising Office prior to registration.

Aerospace Studies

see *Undergraduate Catalog*

Anthropology

Anthropology, ANTH

5010. Anthropological Thought and Praxis I. 3 hours. Considers the history of anthropological concepts, the major historical debates in anthropological theory and historical tensions between applied and theoretical knowledge. Special emphasis is given to critical examination of concept and theory formation and the application of anthropological ideas to the problems of everyday life. Prerequisite(s): ANTH 5200 if no anthropology degree.

5015. Anthropological Thought and Praxis II. 3 hours. Considers contemporary anthropological concepts and theories and the major debates that have been produced by them. Special emphasis is given to the most recent tensions and debates on the relationships between theoretical and applied knowledge. Specific attention is paid to the relationships between social theory and social policy formation. Prerequisite(s): ANTH 5010.

5020. Quantitative Methods in Anthropology. 3 hours. Basic principles and techniques of research design, sampling, and elicitation for collecting and comprehending quantitative behavioral data. Procedures for data analysis and evaluation are reviewed, and students get hands-on experience with SPSS in order to practice organization, summarizing, and presenting data. The goal is to develop a base of quantitative and statistical literacy for practical application across the social sciences, in the academy and the world beyond.

5030. Medical Anthropology. 3 hours. This course presents perspectives in contemporary medical anthropology, with a focus on the biocultural basis of health and sociocultural variations in illness and healing (ethnomedicine). It includes study of comparative health systems, political-economic and ethical issues in health and care, health professions and patients' views of illness.

5040. Ethnographic and Qualitative Methods. 3 hours. Focuses on ethnographic and qualitative methods and the development of the skills necessary for the practice of anthropology. Special emphasis is given to qualitative techniques of data collection and analysis, grant writing, the use of computers to analyze qualitative data and ethical problems in conducting qualitative research.

5060. Pre-Practicum: Problems and Cases in Applied Anthropology. 3 hours. Examines case studies and specific problems in applied anthropology, and guides students in preparing for the practicum. Students are exposed to the practice of anthropology in a variety of settings, such as health, business, development, education, environment, crime, ethnic and race relations, and social policy. The class includes case study readings and guest speakers to help students discover the range of what applied anthropologists do, and to help focus their own interests. In addition, students learn how to identify potential agencies as practicum sites, how to approach them and how to develop a practicum proposal.

5070. Urban Ethnic Cultures. 3 hours. Course examines how ethnic identity is experienced and articulated in the urban context, historically and contemporarily. Comprehension of the fundamental dynamics that influence the development and maintenance of ethnic cultures in cities, drawing on key concepts from anthropology and urban studies. General overview of how ethnic and racial relations are socially structured in the United States, followed by an examination of some of the symbolic materials and mediums through which people express a sense of ethnic identity and belonging – music, dress, dance and stories. Consideration of how these expressive cultures unfold in urban settings, both shaped by and reconstituting city life in this country.

5200. Seminar in Cultural Anthropology. 3 hours. A survey of anthropological attempts to understand and explain the similarities and differences in culture and human behavior.

5420. Introduction to Health Services Research. 3 hours. Survey of the history of the development of the field of health services research; the interdisciplinary contributions of the disciplines of sociology, economics, anthropology, gerontology, political science and public health to the field; and the use of survey research to collect information on health status and health services utilization.

5610. Topics in Sociocultural Anthropology. 3 hours. Cross-cultural and ethnographic investigation, analysis and discussion of a significant, contemporary topic of interest to students in various graduate programs. May be repeated for credit as topics vary.

5620. Anthropology of Education. 3 hours. Examines issues and approaches relevant to the study of education within the field of anthropology. Provides an introduction to anthropological concepts and anthropological methods used in the study of education and schooling. Includes an examination of the relation between anthropology and education as it pertains to cultural transmission. In addition, it looks at cultural difference, minority status, and educational outcomes. It also highlights current perspectives and critiques relevant to educational “problems” and emerging solutions derived from an anthropological perspective of education.

5800. Applying Anthropology: Practicum I. 3 hours. Provides experiential learning in applied anthropology through placement in business, government, community, and social service organizations and agencies. Students design and implement an applied anthropology project under the supervision of a faculty member. This 96-hour (minimum) placement is planned in cooperation with the student to meet specialized career goals. The student should accomplish as many hours as possible during Practicum I; hours can be finished under Practicum II. Prerequisite(s): ANTH 5010, 5015, 5020, 5040 and 5060.

5810. Applying Anthropology: Practicum II. 3 hours. Provides experiential learning in applied anthropology through placement in business, government, community, and social service organizations and agencies. A continuation of Practicum I. Students finish up any remaining research, deliver their findings to the client, and prepare a written report and a verbal presentation for the department of anthropology. Prerequisite(s): ANTH 5010, 5015, 5020, 5040, 5060 and 5800.

5900-5910. Special Problems. 1–3 hours each.

Applied Economics

Applied Economics, AECO

The following courses usually are offered by faculty members in the Institute of Applied Economics. Additional courses in other departments and colleges may be included in a student’s degree plan upon recommendation of the adviser and consent of the dean of the School of Graduate Studies.

5010. Interdisciplinary Seminar. 1–6 hours.

5050. Seminar in Contemporary Applied Economic Problems. 3 hours. Analysis and discussion of significant contemporary issues in economics and public policy. May be repeated for credit.

5870. Research Methods. 3 hours. Research methodology for business and the social sciences. Topics include research design; techniques of exploratory data analysis; measures of association; a survey of multivariate factor, discriminant and clustering procedures; and an introduction to linear regression analysis. Prerequisite(s): 3 hours of college statistics or consent of instructor. Offered fall term/semester only.

5880. Multivariate Regression Analysis. 3 hours. Application of multivariate regression analysis to issues in business and the social sciences. Topics include estimation and analysis

of linear models under ideal and non-ideal conditions, instrumental variables estimation and estimation of models with limited dependent variables. Emphasis is placed upon the application of computer technology to practical problems in forecasting and policy analysis. Prerequisite(s): 3 hours of college statistics or consent of instructor.

5900-5910. Special Problems. 1–3 hours each. Open to advanced students capable of doing independent research in economic education, and labor and industrial relations under the direction of the instructor.

5920-5930. Research Problems in Lieu of Thesis. 6 hours each. Research methods emphasizing the philosophy of science, basic statistical methods and basic research design; preparation of a number of research proposals reflecting alternative research designs and alternative statistical methodologies and a mini-thesis with emphasis on empirical studies. Required of all Master of Science candidates.

5950. Master’s Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

Applied General Music

see Music

Applied Gerontology

Applied Gerontology, AGER

5200. Seminar on Research Methods and Design. 1–3 hours. Focuses on policy research and its implications for programs in aging and on techniques of evaluation of programs for the elderly.

5250. Topics in Gerontology. 1–3 hours. In-depth analysis and discussion of significant subjects in aging. May be repeated for credit as topics vary.

5300. Computer Applications in Long-Term Care and Community-Based Services for the Aging. 4 hours. Overview of entire subject of small computers, including terminology, how computers work and capabilities of computers; effective application of computers in the field of aging, including laboratory experience with hardware and software commonly used by professionals delivering health and social services to the aged.

5350. Basic Mediation Skills in Aging. 3 hours. This course, which utilizes negotiation and mediation principles and techniques, meets the dispute resolution training needs of individuals serving the elderly and their families. Included are such professionals as social workers, counselors, discharge planners, home health administrators, care managers, nursing home staff, adult protective service workers, ombudsmen, health and human services staff, and anyone else contracted to serve the elderly and their family members.

5400. Health Delivery Systems. 3 hours. A cross-cultural overview of health delivery systems followed by an extensive consideration of all aspects of the health delivery system in the United States; government and private sector involvement in delivery of health services to the aged is emphasized. (Same as SOCI 5400.)

- 5420. Introduction to Health Services Research.** 3 hours. Survey of the history of the development of the field of health services research; the interdisciplinary contributions of the disciplines of sociology, economics, anthropology, gerontology, political science, and public health to the field; and the use of survey research to collect information on health status and health services utilization.
- 5500. Retirement and Retirement Preparation.** 1–3 hours. Investigation of retirement as a social institution with emphasis upon the implications for the individual and society. Includes rationale, content and methods involved in retirement planning programs.
- 5560. Seminar on Minority Aging.** 3 hours. An examination of the current state of gerontological knowledge with regard to each of the federally designated minority groups in the United States: African-Americans, Asians/Pacific Islanders, Hispanics and Native Americans. Each student will have the opportunity to explore the state of knowledge about a particular group or a research issue across populations.
- 5600. Housing for the Elderly: Planning, Public Policy and Research.** 1–3 hours. Theoretical, research and practical literature concerning housing alternatives is considered. Emphasis is on the four housing development stages: need assessment, financing, physical design and management of a housing site; and how theory, research and public policy relate to each of these issues.
- 5700. Social Gerontology.** 1–3 hours. Demographic, social and cultural aspects of aging, with particular emphasis upon American society and the types of problems encountered by older people. May be repeated for credit as topics vary.
- 5710. Health Aspects of Human Aging.** 1–3 hours. Examination of general and cellular theories of aging and general age-related changes in various body systems. Issues covered include myths and facts about physical health and aging, normal age-related changes and common chronic illnesses associated with old age. Students will become familiar with medical terminology to facilitate effective communication with health care professionals who work with the elderly in both institutional and community settings.
- 5740. Financial Issues in Aging Administration.** 3 hours. Addresses the need of the administrator/manager who is not a financial expert to understand, identify and experience some applications of practical information related to financial/management issues in residential and community-based programs for the elderly.
- 5750. Processes of Aging.** 1–3 hours. Advanced seminar in social gerontology with emphasis upon psychosocial changes associated with aging.
- 5770. Program Evaluation in Aging Services.** 3 hours. This seminar is designed to provide students with the basic skills and perspectives required to undertake evaluations of health and social programs for the aged, and to assess the merits of program evaluations conducted by others. Emphasis is placed on the unique service needs of older persons; the distinctive character of the facilities, agencies and programs that serve them; and special challenges faced by those who attempt to assess the benefits of such efforts.
- 5780. Federal, State and Local Programs in Aging.** 1–3 hours. History of social policy in aging; derivations and directions of public policy, interrelationships of agencies; discussion of selected programs and services for the aged.
- 5790. Needs Assessment, Program Planning and Evaluation in the Services for the Elderly.** 3 hours. Principles, techniques and skills used to identify the needs of elders at the community level and to design and evaluate programs individually tailored to meet those needs in such areas as access, health, nutrition, housing, income maintenance, employment, personal support, and training and education.
- 5800. Grant Proposal Writing for Aging Services.** 1–3 hours. Today's health, social and housing programs for older persons are rarely self-supporting. Government funding, insurance payments and client fees cover only a portion of the cost of delivering needed services. As a result, a program's success depends on its ability to secure other types of income. This course provides the skills needed to conceive, prepare and submit successful proposals for external funding of innovative human service projects for the elderly. As part of the course, each student will develop a proposal designed to help a community program respond to a specific problem facing the aged.
- 5810. Seminar on Administration of Programs in Aging.** 3 hours. Management of residential and community-based programs for the elderly, focusing on employment and personnel issues; provision and oversight of services to clients; government regulation; marketing and fundraising; relations with families, volunteers and the public; and other topics pertinent to the administration of these programs.
- 5840. Internship in Administration of Programs in Aging.** 3 hours. Five-hundred-clock-hour practicum in approved agency serving the aged. Credit awarded only upon completion of internship. Pass/no pass only.
- 5850. Internship in Administration of Programs in Aging.** 3 hours. Five-hundred-clock-hour practicum in approved agency serving the aged. Credit awarded only upon completion of internship. Pass/no pass only.
- 5860. Seminar on the Psychology of Aging.** 1–3 hours. Theoretical and research literature concerned with the psychological aspects of aging. Age-related changes in physical, perceptual and cognitive processes are considered with regard to their effects on the occupational, social and personal adjustments and motivations of the aging adult. (Same as PSYC 5860.)
- 5880. Ethical Issues in an Aging Society.** 3 hours. An exploration of the moral, ethical and legal issues that population aging poses at the individual, family, service provider and societal levels. Illustrative topics include the elderly's access to health care, self-determination and advance directives in old age, and filial responsibility to aging parents.
- 5890. Psychological Counseling for Late Maturity and Old Age.** 1–3 hours. Study of the predictable and normal dependencies of aging; techniques of individual, family and group counseling applied to later life with emphasis on problems of retirement, health and bereavement. (Same as PSYC 5890.)
- 5900-5910. Special Problems.** 1–3 hours each. Individual study assigned with consent of major professor and instructor.
- 5940. Proseminar on Applications in Practice.** 3 hours. The focus of this capstone seminar is the application of gerontological theory to practice issues in the field of aging. Students demonstrate their ability to apply theory to practice through class discussion and the submission of a major written project. Continuous enrollment required once work on project has begun.
- 5960-5970. Studies in Aging Institute.** 1–3 hours each. Scheduled regularly for participants in institutes. May be repeated for credit. No more than 6 hours allowed for regular students.

6150. Theories of Aging. 3 hours. An intensive analysis of the theories of aging that have been advanced by researchers in the social and behavioral sciences from 1950 to the present. Prerequisite(s): a minimum of 12 hours in gerontology, including AGER 4550 or 5700, or equivalent.

6500. Regulatory Strategies. 3 hours. Introduction to current issues and strategies in the regulation of health care service delivery and other benefits to older Americans; development of a general awareness of the intended and unintended impacts of regulations governing benefits to older adults and their families. Prerequisite(s): admission to the doctoral program in applied gerontology, or consent of the instructor.

6700. Formal Organization of Aging Services. 3 hours. Provides students with an understanding of the nature, structure and functioning of large-scale organizations in the field of aging. Rational and conflict models from the social and managerial sciences are used to analyze the creation, operation, growth, transformation and decline of governmental agencies, and for-profit and not-for-profit service providers, including federal institutes, regulatory agencies, advocacy organizations, foundations, long-term care facilities and companies, home care programs, and continuing care retirement communities. Prerequisite(s): admission to the doctoral program in applied gerontology, or consent of the instructor.

6750. Global Perspectives on the Future of Aging. 3 hours. The growing proportion of older persons worldwide, in both high-income and low-income societies, is redefining what it means to be old, the relationship between young and old, and the place of the aged in society. Our expectations about what older people can and should expect from society and, in turn, what society may expect from them, are changing. These changes are evident in the institutions of work, family, education and politics. This course explores current trends in individual and population aging and their implications for future societies in which even larger numbers of individuals will live to an even more advanced age. Prerequisite(s): admission to the doctoral program in applied gerontology, or consent of instructor.

6770. Program Evaluation in Aging Services. 3 hours. Methods of evaluation in aging services, emphasizing the special issues associated with defining, measuring and determining program impacts for older patients and clients. Evaluation techniques and examples drawn from the aging services network encompass needs assessment, setting objectives, selecting and implementing programs and interventions, determining program outcomes and making recommendations for improved program functioning. Each student is involved in evaluating a program in the field of aging. Prerequisite(s): admission to the doctoral program in applied gerontology, or consent of instructor.

6800. Social Policy and Aging. 3 hours. Examination of the impact of public policies related to an aging society in the U.S. as well as in other nations. Policies related to income security, support services, access to health care, institutional services and housing access are reviewed. Prerequisite(s): admission to the doctoral program in applied gerontology or related doctoral program.

6840. Practicum in Applied Gerontology. 1–6 hours. Field experience in an agency or facility servicing the aging population or dealing with aging issues, allowing the doctoral candidate to contribute to program operation or the formulation of policy through the conduct of systematic inquiry.

6850. Special Topics in Applied Gerontology. 3 hours. Organized classes specially designed to accommodate needs of students and the demands of program development that

are not met by regular offerings. Prerequisite(s): consent of the department. Limited-offering basis; may be repeated for credit.

6900-6910. Special Problems. 1–9 hours each. Research by doctoral students in a field of special interest. Includes projects, research studies and intensive reading programs.

6950. Doctoral Dissertation. 3–9 hours. Twelve credit hours required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing the qualifying examination for admission to candidacy. May be repeated for credit.

Applied Gerontology, Related Courses

The following courses are taught in related departments:

ACCT 5020. Accumulation and Analysis of Accounting Data. 1.5 hours. Provides an understanding of accounting procedures and concepts utilized by management in making decisions. Basic concepts and techniques of accounting; the role of an accounting system in business operations and management; preparation and interpretation of financial reports. This course meets the deficiency requirement in accounting for MBA candidates and may be counted as part of a graduate program in a field other than business administration.

BLAW 5050. Legal, Regulatory and Ethical Environment of Business. 1.5 hours. Introduction to the legal environment of business, with particular emphasis on managerial decision-making. Includes a study of the litigation process and constitutional law; selected areas of private and public law, including government regulation; international dimensions of the legal environment of business, business ethics and the social responsibility of business organizations. Business context is emphasized with a focus on individual and managerial decision-making in response to legal and ethical issues.

MGMT 5520. Management of Health Service Organizations I. 3 hours. Provides advanced study of the unique operational applications of business/managerial theory, methodology and best practice to acute, home and long-term care health service institutions, including facilities design and management, financial analysis and management, systems analysis and evaluation, application and management of information technology, assessment of health needs and marketing, quality improvement, human resource management and the legal/ethical aspects of health care.

Applied Private Music

see Music

Applied Technology, Training and Development

see Technology and Cognition

Arabic

see *Undergraduate Catalog*

Archaeology

see Geography

Art

Art, ART

5110. Foundations of Theory Analysis in Art Education.

3 hours. The relation between theory and practice in art education is introduced and examined through analysis of topics currently affecting the field.

5120. Seminar in Medieval Art. 3 hours. Selected topics in medieval art.

5130. Seminar in Renaissance Art. 3 hours. Selected problems in Renaissance art. Prerequisite(s): ART 4130. May be repeated for credit as topics vary.

5150. Seminar in Native American Art. 3 hours. Selected problems in native North American art.

5160. Seminar in Latin American Art. 3 hours. Selected problems in Latin American art.

5180. Seminar in Seventeenth-Century Art. 3 hours. Selected problems in 17th-century art. Prerequisite(s): ART 4180. May be repeated for credit as topics vary.

5190. Seminar in Art History. 3 hours. Research and study in selected topical areas of art history. May be repeated for credit as topics vary.

5191. History of Prints. 3 hours. Printed images since the Renaissance. Meets with ART 4190.

5200. Contemporary Architecture. 3 hours. Biological, structural and social problems of human shelter; analysis of achievement in contemporary architecture.

5311. History of Crafts. 3 hours. Ceramics, metalwork, weaving and other crafts media from the Paleolithic era to the present. Meets with ART 4310.

5340. Seminar in American Art. 3 hours. Selected problems in American art. Prerequisite(s): ART 4340. May be repeated for credit as topics vary.

5350. Research in Art. 3 hours. A study of research techniques and their applications in the field of visual arts; preparation of a prospectus.

5360. Seminar in Nineteenth-Century Art. 3 hours. Selected problems in 19th-century art. Prerequisite(s): ART 4360. May be repeated for credit as topics vary.

5370. Seminar in Twentieth- and Twenty-First-Century Art. 3 hours. Selected problems in 20th- and 21st-century art. Prerequisite(s): ART 4372 or 4374, or equivalents, or consent of instructor. May be repeated for credit as topics vary.

5377. History of Graphic Design. 3 hours. Survey of the history of graphic design, with emphasis on style and context. Meets with ART 4376.

5379. History of Photography. 3 hours. Survey of the history of photography, including developments in photographic technologies, practices, theory and analysis. Meets with ART 4378.

5380. Seminar in Eighteenth-Century Art. 3 hours. Selected problems in 18th-century art. Prerequisite(s): ART 4380. May be repeated for credit as topics vary.

5390. Seminar in Art Museum. 3 hours. Study of the functions of an art museum — collection, preservation, exhibitions, research and interpretation of art objects. Visits to North Texas art museums required. Prerequisite(s): consent of instructor.

5391. Pre-Columbian, Mesoamerican and North American Art. 3 hours. Arts of the Pre-Columbian cultures of Mesoamerica and North America. Meets with ART 4390.

5410. Seminar in Art Education Reform. 3 hours. The demand for educational reform in today's schools powerfully affects art education. Current reform initiatives are examined through the lenses of theory development, program implementation and the human dynamic.

5450. Professional Internship. 3–6 hours. In-training programs offered in cooperation with approved businesses and professional organizations with career connections to the studio arts. Prerequisite(s): 12 hours and approval of instructor.

5550. Seminar in Art Museum Education I. 3 hours. Applied study of the practice of art museum education. Emphasis on teaching, writing, and program development for multiple audiences in the art museum. Prerequisite(s): art education and art history, graduate level.

5560. Seminar in Art Museum Education II. 3 hours. Study of contemporary and historical issues regarding the educational function of art museums. Concentration on object-based learning, pedagogical theory, and audience identification. Prerequisite(s): ART 5550 or consent of instructor.

5610. Artist's Bookmaking. 3 hours. (2;4) Design and creation of books as works of art at the master's level. Utilization of techniques of book design and bookbinding to create personal artistic statements in a sequential format. Prerequisite(s): competency in photography or printmaking or consent of school.

5700. Seminar in University Art Teaching. 3 hours. A study of problems unique to university art faculty; professional practices in various fields of art teaching. May be repeated for credit as topics vary.

5800. Graduate Studio. 3 hours. Courses for students qualified to develop professional competence in special areas of studio work. Prerequisite(s): 12 hours of art in the selected area and consent of school. All may be repeated for credit.

5801. Sculpture Studio.

5802. Painting Studio.

5803. Ceramics Studio.

5804. Drawing Studio.

5805. Printmaking Studio.

5806. Photography Studio.

5807. Communication Design Studio.

5808. Fashion Design Studio.

5809. Interior Design Studio.

5810. Jewelry and Metalworking Studio.

5811. Fibers: Weaving Studio.

5812. Fibers: Fabric Design Studio.

5813. Digital Art Studio. 3 hours. (2;4) Topics classes, focusing on new and experimental subject matter in the digital media environment.

5815. Topics in Studio Art. 3–6 hours. Variable topics course designed to explore concepts and processes in art-making that go beyond the normal curricular parameters of traditional studio disciplines. May be repeated for credit as topics vary. Prerequisite(s): consent of instructor.

5817. Watercolor Studio. 3 hours. Historic and contemporary watercolor research through galleries, museums and text with practical applications toward a series of student-developed water media paintings. Prerequisite(s): BFA or consent of instructor.

5825. Professional Practices for the Studio Artist. 3 hours. A study of theoretical and practical aspects of succeeding as a practicing artist outside the academy. Survey of the protocols and common practices expected of the artists as a productive member of the business community wherein fine art is the commodity.

5830. Issues and Applications of Technology in Art Education. 3 hours. Historical and philosophical issues related to the use of technology and digital imagery in the art classroom, as well as advanced application of technology to enhance the acquisition and manipulation of knowledge and imagery. Prerequisite(s): ART 5855 or consent of instructor.

5835. Parallels in Art, Culture and Fashion. 3 hours. (2;4) Concentrated overview of developments in 20th-century fashion and the relationships between movements in art, design and popular culture.

5845. Theories in Criticism and Aesthetics. 3 hours. Examination of aesthetics in the visual arts through visual discrimination and critical thinking in relationship to historical and socio-political influences. Application of the theories of aesthetics and criticism to curriculum development. Prerequisite(s): ART 5855 or consent of instructor.

5850. Seminar in Art Education. 3 hours. Selected problems in art education, theory and practice. Prerequisite(s): consent of school. May be repeated for credit as topics vary.

5855. Theory and Practice of Teaching Elementary and Secondary Art. 3 hours. Examination of how educational and art educational theory inform contemporary art education practice in both elementary and secondary art classrooms. In addition to scheduled class meetings, students are required to complete 55 hours of observation (half in an elementary art classroom and half in a secondary art classroom) in an assigned location. Prerequisite(s): admission to the MA program in art education (Option III). Students must contact instructor prior to registration to arrange for observation assignments and to complete paperwork/criminal history forms.

5860. Curriculum Development and Program Assessment in Art. 3 hours. Processes for developing and sequencing the curriculum and methodologies for the assessment of educational programs and student learning in art for elementary and secondary public schools and higher education.

5870. History of Art Education. 3 hours. Seminar explores the history and philosophy of education in relationship to the teaching of art in public schools and higher education.

5880. Trends and Issues in Art Education. 3 hours. Research into current literature and practical applications in American and international art education.

5890. Politics and Advocacy in the Visual Arts. 3 hours. Examination of effective advocacy efforts and appropriate political actions needed to resolve issues in the field of art education.

5900-5910. Special Problems. 1–3 hours each. Conference courses open to advanced students capable of doing independent research under the direction of the instructor. Not to be registered for except when other graduate courses are not available. Registration permitted only with consent of school. A maximum of 3 semester hours of credit for each course.

5920-5930. Research Problems in Lieu of Thesis. 3 hours each. Research dealing with significant problems in the field of art. Courses open to MFA students who are doing a project in lieu of a thesis. Student must mount an MFA exhibition as part of course requirements for 5930.

5940. Creative Project. 3 hours. (3;3) Research and practice dealing with significant problems in the field of art. Should be taken with major professor. Prerequisite(s): consent of instructor.

5945. MFA Exhibition. 3 hours. (0;6) Professional practice in the planning and staging of an exhibition of creative works as a culmination of visual research. Should be taken with major professor. Prerequisite(s): consent of instructor.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of school. 6 hours credit required. No credit assigned until thesis has been completed and filed with graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

5955. Research Project. 6 hours. Research and writing on a significant problem in the field of art history. Course open to MA students in art history. Prerequisite(s): successful completion of ART 5350, Research in Art; successful completion of at least 21 hours of master's degree program courses; department language requirement satisfied.

5960-5970. Art Institute. 1–3 hours each. For students accepted by the university as participants in special institute programs.

6900-6910. Special Problems. 1–3 hours each. Conference courses for doctoral students. Directed reading and research in fields of special interest.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of school. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

Astronomy

see *Undergraduate Catalog*

Behavior Analysis

Behavior Analysis, BEHV

5000. Observation and Measurement of Behavior and Environment. 3 hours. An examination of the factors to be considered in observing and measuring behavior and environment; methods of recording data with emphasis on the conditions under which each method is most appropriate.

5010. Experimental Analysis of Behavior. 3 hours. Reviews classical experimental literature in behavior analysis. Compares methodology to that in natural and social sciences. Special emphasis on experimental analysis of human behavior.

5020. Theory and Philosophy in Behavior Analysis. 3 hours. Study of the conceptual framework of behavior analysis; studies epistemological issues and nature of scientific explanation; examines common misconceptions and provides theoretical foundations for applications and basic research.

5028. Autism I: Conceptual/Methodological Issues in Applied Behavior Analysis. 3 hours. Describes basic conceptual and methodological issues involved in behavioral treatment of children with autism. Topics studied include theories and controversies regarding etiology and assessment, distinctions between behavioral and alternative approaches to treatment, comparisons of treatment formats, and critical review of curriculum options. Behavior analysis majors must take BEHV 5810 concurrently with BEHV 5028.

5029. Autism II: Applied Behavior Analysis Research and Practice. 3 hours. Describes research and practice associated with the scientist-practitioner model of applied behavior analysis intervention for young children with autism. Students conduct comprehensive reviews of experimental literature in the three critical areas of autism intervention and learn to evaluate this literature according to accepted rules of scientific evidence. Students propose and implement an intervention that addresses at least one experimental question and extends existing scientist/practitioner literature. Students complete projects that translate research findings to practice. Behavior analysis majors must take BEHV 5815 (second Practicum) concurrently with BEHV 5029 and must have received an A in 5810 and 5028. Prerequisite(s): BEHV 5028 and 5810.

5030. Applied Behavior Analysis and Autism III: Supervision and Training. 4 hours. Describes behavioral intervention literatures as they relate to the change agents responsible for treatment implementation. Students design and implement change agent data collection systems, training packages and complete extensive practical training. Students also explore issues in the funding and systems involved in the provision of treatment. Prerequisite(s): BEHV 4000.

5100. Introduction to Behavior Analysis. 3 hours. Defines and delimits the subject matter of behavior analysis. Examines the principles that describe behavioral processes and distinguishes the learned and unlearned components of operant and respondent behavior. Relates behavior change procedures to the processes accounting for learned behavior.

5130. Basic Behavior Principles. 3 hours. First in a sequence of four courses in the certificate program for non-degree seeking graduate students. Everyday behavior is examined as part of the natural world, and behavior change is explained by behavioral principles derived from scientific research. Principles and procedures included in course content are reinforcement, extinction, differential reinforcement, punishment, discrimination training, generalization, shaping fading and programming. Definitions, reliability and validity and direct observation methods are also addressed. The four-course sequence has been designed to meet minimum course content specified by the Behavior Analysis Certification Board as part of the requirements for certification.

5140. Research Methods in Behavior Analysis. 3 hours. An overview of strategies and tactics of experimental design in behavior analysis. Includes strengths and weaknesses of single organism methodology in basic and applied research. Topics include issues of experimental logic, experimental control, variability, data analysis and display, and interpretation of experimental findings.

5150. Techniques in Applied Behavior Analysis. 3 hours. Analysis of problems in behavioral terms. Selection of management strategy and behavior change techniques,

including behavioral contracting, contingency management, programmed instruction, removal or reduction of environmental stressors. Consideration of ethical issues, including informed consent, need for non-coercive or at least restrictive intervention. Supervised practical experience.

5170. Research and Applications in Behavior Analysis. 3 hours. The third in a sequence of four courses in a certificate program for non-degree seeking graduate students. Features the use of scientific method in evaluating assessment and intervention techniques in applied behavior analysis. Topics include measurement techniques, single-subject experimental design, selection of dependent and independent variables, graphical presentation and evaluation of results, ethics pertaining to human subjects, and ways of communicating research results. Principles and procedures involved in the experimental analysis of reinforcement schedules, stimulus control and stimulus equivalence are included. The four-course sequence has been designed to meet minimum course content specified by the Behavior Analysis Certification Board as part of the requirements for certification. Prerequisite(s): BEHV 5130 and 5150.

5250. Topics in Behavior Analysis. 3 hours. In-depth analysis and discussion of significant topics in behavior analysis. Topics include but are not limited to the following: philosophy of measurement of behavioral phenomena; rule-governed vs. contingency-governed behavior; the creation of settings and interpersonal dynamics; legal, ethical and professional issues in behavior analysis.

5330. Verbal Behavior and the Analysis of Human Behavior. 3 hours. Use of behavior analysis in understanding the nature and development of human communication. Explores how and why communication fails; develops guidelines for enhancing communication through understanding of the underlying behavioral processes.

5540. Legal, Ethical and Professional Issues in Behavior Analysis. 3 hours. Addresses and reviews the effects of court decisions in development and implementation of behavioral interventions, ethical requirements of the Behavior Analysis Certification Board, and professional conduct in treatment, intervention and consultation settings. Topics include accountability, confidentiality, quality of services, quality of life, emergency management, research, professional collaborations and ethical safeguards.

5560. Development of Behavior Intervention Programs. 3 hours. Focus is on the integrated components of behavioral programming. Includes developing behavioral objectives, functional analysis, design of intervention procedures, evaluative criteria and the integration of these components into a readable document.

5570. Training and Supervision of Staff in Human Service Settings. 3 hours. Includes analysis of political and social contingencies existing in most institutional settings. Describes training considerations and ways to establish a positive work environment for staff and clients. Principles underlying effective supervisory practices are described.

5810. Practicum. 2 hours. (0;0;2) Students work in a small group in a field setting under the immediate supervision of a faculty member in the department. The purpose of this practicum is to provide experience in applying behavioral principles in a setting where faculty feedback is continuously available.

5815. Practicum. 1 hour. (0;0;1) Students work individually or in pairs on a project in any of a variety of applied settings. They are supervised by faculty through weekly meetings and occasional on-site observation. Project must be pre-approved, in writing, by faculty supervisor before registration. Practicum projects typically require about 100 clock hours (including time in the field and time meeting with supervisor). The purpose of this practicum is to provide the student with experience in planning and implementing behavior change. This course may be repeated for credit. Prerequisite(s): BEHV 5810.

5820. Internship. 3 hours. (0;0;3) Students work in the field, under the supervision of a qualified behavior analyst, in a setting of their choice for a period of 6 weeks. Internship settings include (but are not limited to) agencies serving persons with developmental disabilities, business and industry, consulting firms, research facilities, schools and offices of physicians, psychologists and other private practitioners. Prerequisite(s): BEHV 5810 and 5815.

5900-5910. Special Problems. 1–3 hours each. Open to graduate students who are capable of independent work in a specific area of interest. Outline of problem and proposed activities must be submitted in writing to faculty and approved in advance of registration.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit given until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

6400. Behavioral Interventions in Health and Medicine. 3 hours. Course is constructed around a series of cases in which behavioral interventions are planned to improve health, prevent disease, or mitigate the effects of chronic health problems of individuals. A behavioral analysis of the problem in the context of individuals' overall repertoire and life circumstances is followed by design of an intervention plan based on behavioral principles. Problems likely to need resolution for successful intervention are identified and addressed.

Bilingual and English as a Second Language Education

see Teacher Education and Administration

Biochemistry

see Biological Sciences

Biological Sciences

Biochemistry, BIOC

5340. Molecular Biology. 3 hours. Mechanisms and regulation of genetic expression, chromosome replication, mutagenesis and DNA repair, and gene cloning in prokaryotic and eukaryotic systems. Prerequisite(s): BIOL 4570 and 4580, or BIOC 4570 and 4580, and at least two of the following: BIOC 4540, 4550 or 4560, or BIOL 3510 or 3520. (Same as BIOL 5340.)

5540. Biochemistry I. 3 hours. (3;0;1) Chemistry and biochemistry of carbohydrates, lipids, amino acids and proteins, and nucleic acids; biochemical energetics, enzyme catalysis, vitamins and coenzymes, and their inter-relationships

in energy-producing cycles and pathways. A recitation period is scheduled for problem-solving and student reports from the current biochemical literature. Prerequisite(s): CHEM 2380 or consent of department.

5550. Biochemistry II. 3 hours. (3;0;1) Continuation of BIOC 5540. Metabolic pathways in biosynthesis and degradation of lipids, nucleic acids, proteins and carbohydrates, photosynthesis, nitrogen cycle, biochemical genetics and metabolic regulation. A recitation period is scheduled for problem-solving and student reports from the current biochemical literature. Prerequisite(s): BIOC 5540 or consent of department.

5560. Biochemistry Laboratory. 2 hours. (1;3) Analysis and characterization of amino acids, peptides, enzymes, lipids, nucleic acids, carbohydrates, and metabolic pathways and processes. Techniques include a variety of chromatographic methods, electrophoresis, UV-vis spectroscopy and radiochemistry. Prerequisite(s): BIOC 5540 (may be taken concurrently). (Same as BIOC 4560.)

5580. Molecular Biology and Biotechnology Laboratory. 2 hours. Experiments in recombinant DNA techniques, gene regulation and other areas of molecular biology. Prerequisite(s): BIOC or BIOL 5340 (may be taken concurrently). (Same as BIOC 4580 and BIOL 5580.)

5680. Selected Topics in Biochemistry. 1–3 hours. Current research interests in the field of biochemistry. Prerequisite(s): consent of department. May be repeated for credit as topics vary.

5900-5910. Special Problems. 1–3 hours each. Independent study or laboratory research for the master's level. Problem must be approved by the major professor.

5940. Seminar in Current Biochemistry. 1 hour. A study of current literature; current research emphasized. May be repeated for credit.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit. Prerequisite(s): approved thesis proposal must be filed with department graduate office prior to enrollment.

6010. Seminar for Doctoral Candidates. 3 hours. Demonstration of competence in a specific area of biochemistry and/or molecular biology as evidenced by criteria established by the faculty. May be repeated for credit.

6600. Advanced Molecular Biology. 3 hours. Genetic structure and regulation of gene expression in prokaryotic and eukaryotic organisms; mechanisms of gene action, gene/enzyme relationships and metabolic control; biochemical manipulation and characterization of genetic macromolecules. Prerequisite(s): BIOL 4570 or 5340 or equivalent. (Same as BIOL 6600.)

6610. Advanced Metabolism. 3 hours. Advanced intermediary metabolism of carbohydrates, lipids, nitrogenous compounds and nucleic acids. Relevant new findings particularly regarding the regulation of these pathways are also covered. Prerequisite(s): BIOC 4550/5550 or consent of department.

6620. Advanced Cell Biology. 3 hours. Structure and function of animal and plant cells with emphasis on cell membranes, cytoplasmic organelles and the nucleus; readings in current literature. Prerequisite(s): biochemistry, BIOL 3510/3520 or equivalent, or consent of department. (Same as BIOL 6620.)

6630. Protein Structure and Function. 3 hours. An introduction to protein structure. Coverage of recurring structural motifs and the determination of protein structure as it determines enzyme function. Catalytic reaction mechanisms, protein-substrate interactions and the kinetics of enzyme catalyzed reactions. Prerequisite(s): BIOC 4550 or 5550.

6640. Biochemical Regulation and Signal Transduction. 3 hours. A study of regulation in metabolic processes and pathways, emphasizing theories of metabolic flux and enzyme regulation in the context of cellular signaling processes. Signal transduction pathways fundamental regulatory mechanisms, such as allosterism, induction and protein degradation are discussed. Prerequisite(s): BIOC 4550 or 5550, or consent of department.

6650. Plant Physiology and Biochemistry. 3 hours. This course emphasizes contemporary aspects of plant biochemistry and physiology using examples from the current research literature. Lectures focus on physiological processes that are specialized and unique to higher plants, including photosynthesis and dormancy. Biochemical and physiological approaches are integrated as they relate to the overall control of plant growth and development. Prerequisite(s): one of the following: BIOC 4540 or 4550, or BIOL 3510 or 4570, or plant physiology, or consent of the instructor.

6680. Advanced Techniques in Biochemistry. 1–3 hours. Methods and instrumentation currently used in biochemical analyses. Presented in four-week minicourses consisting of 8 hours of lecture and 24 hours of laboratory. Topics vary from year to year but include, among others, protein sequencing and amino acid analysis, nucleic acid sequencing, tissue culture, monoclonal antibody production, column chromatography, radioisotopes, peptide synthesis, and gel electrophoresis and electrofocusing. Prerequisite(s): consent of department. May be repeated for credit as topics vary.

6900-6910. Special Problems. 1–3 hours each. Independent study or laboratory research for doctoral students. Problem must be approved by the major professor.

6940. Individual Research. 1–12 hours. Doctoral research of independent nature. Number of hours counted toward the PhD determined by major professor and graduate advisory committee.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of department. 12 hours of credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit. Prerequisite(s): approved dissertation research proposal must be filed with department graduate office prior to registration.

6990. Postdoctoral Research. 1–3 hours. For post-doctoral fellows to further training and research experience in developing and solving research problems independently. Prerequisite(s): consent of department. May be repeated for credit.

Biological Sciences, BIOL

5001. Contemporary Topics in Molecular Biology. 1–3 hours. Contemporary topics in molecular biology and biochemistry. Topics may vary from semester to semester and may include eukaryotic and prokaryotic molecular genetics, DNA profiling, physiology and metabolism and application of recombinant DNA technologies. May be repeated for credit as topics vary.

5002. Contemporary Topics in Microbiology. 1–3 hours. Contemporary topics in microbiology. Topics vary from semester to semester and may include bacterial physiology or metabolism and microbial chemistry. May be repeated for credit as topics vary.

5003. Contemporary Topics in Neuroscience. 1–3 hours. Contemporary topics in neuroscience and physiology. Topics vary from semester to semester and may include neurophysiology, computational neuroscience, neurotransmitters, central nervous system trauma. May be repeated for credit as topics vary.

5005. Contemporary Topics in Biology. 1–3 hours. Contemporary topics in the biological sciences. Topics may vary from semester to semester and may include topics such as human development, epidemiology or plant physiology. May be repeated for credit as topics vary.

5006. Topics in Forensic Biology. 1–3 hours. Specific titles vary but may include forensic entomology, forensic toxicology or forensic biology of the human skeleton. May be repeated for credit as topics vary.

5030. Foundations of Environmental Science. 1 hour. Course lays the foundation for graduate studies in environmental science. Introduces graduate students to the faculty, research expertise and resources available in environmental sciences at UNT. Covers topics essential to a successful graduate experience and career in environmental science.

5040. Contemporary Topics in Environmental Science and Ecology. 1–3 hours. Contemporary topics and issues in environmental science and ecology. Topical themes include global climate change, biodiversity, wetlands, population and aquatic, terrestrial or plant ecology. May be repeated for credit as topics vary.

5051. Community Ecology. 3 hours. Structure, dynamics and diversity of biotic communities and ecosystems. Focus on population interactions, niche relationships and processing of matter and energy. Prerequisite(s): 6 hours of biology including BIOL 2140.

5052. Community Ecology Laboratory. 1 hour. Field and laboratory exercises on distribution, dispersion, abundance and diversity of organisms and their populations. Focus on quantitative description of biotic communities and ecosystems. Prerequisite(s): concurrent enrollment in or credit for BIOL 5051, or consent of department.

5060. Electron Microscopy. 4 hours. (2;6) Theory and application of scanning and transmission electron microscopy, including sample preparation and analytical techniques.

5070. Insect Biology. 4 hours. (3;3) Morphology, physiology, ethology, classification and control of insects and related arthropods. Prerequisite(s): 6 hours of biology.

5080. Radiation Safety. 1 hour. Radiation sources, interaction of radiation with matter and human tissues, radiation measurement and dosage, instrumentation, regulations and practical safety procedures.

5100. Introduction to Environmental Impact Assessment. 3 hours. Principles and practices of preparing environmental impact assessments and statements. Addresses how to understand the effects that projects, plans and policies have on the environment and the impact those effects have on specific resources, ecosystems and human communities. Methods for identifying impacts, describing the affected environment, predicting and assessing impacts and selecting the proposed action from a group of alternatives for meeting specific needs will be examined. A detailed review of an environmental assessment and environmental impact statement are required.

- 5110. Endocrinology.** 3 hours. Regulation of physiological processes in animals by hormones and related chemical agents. Prerequisite(s): BIOL 3800 or equivalent, or consent of department.
- 5120. Environmental Contaminants.** 2 hours. Presents a scientific overview of environmental contaminants, their occurrence, sources and impact on humans and the environment.
- 5150. Pharmacology: The Biological Basis of Drug Action.** 3 hours. An overview of pharmacology for graduate students, based on principles of drug action. The course emphasizes drugs by class, not specific drugs per se. Course covers general principles, antibiotics and pharmacology of the autonomic, cardiovascular, central nervous and endocrine systems.
- 5160. Advanced Techniques in Microbiology and Molecular Biology.** 6 hours. (0;6) Intensive laboratory exercises in cultivation, analysis and gene transfer in bacterial mutants. Further emphasis on techniques for studying macromolecular and enzyme synthesis, preparation and analysis of plasmid DNA, cloning and gene expression. Prerequisite(s): microbiology, biochemistry or BIOL 3510.
- 5180. Techniques in Molecular Biology.** 6 hours. (1;6) Teaches advanced molecular biology laboratory methodology. Techniques include gene cloning, plasmid purification, restriction analysis, DNA fingerprinting and DNA sequencing. Prerequisite(s): BIOL/BIOC 4570, or BIOL 5340, or consent of instructor.
- 5200. Environmental Health.** 3 hours. An introduction to the environmental determinants of health that focuses on health risks of human-mediated changes to the environment, as well as the regulatory framework that directs decision making on environmental issues. Consideration given to health implications of growing populations, available food quantity and quality, loss of habitat and biodiversity, radiation, toxins in the environment, sanitation, solid and hazardous waste disposal and environmental degradation including noise, air and water pollution.
- 5220. Neuropsychopharmacology.** 3 hours. A comprehensive examination of the physiological effects on major psychotropic drug classes that affect the central nervous system, including the interactions between neurotransmitter systems and physiology; neuroanatomical pathways and behavior; synaptic functions and behavioral disorders.
- 5250. Advanced Human Physiology.** 3 hours. Physiological mechanisms in humans, with emphasis on medical physiology.
- 5260. Principles of Evolution.** 3 hours. Genetic, systematic, ecological, historical and geographical concepts of evolution. Prerequisite(s): consent of department.
- 5270. Limnology.** 4 hours. (2;4;1) Physical, chemical and biological factors that affect productivity in reservoirs, lakes and ponds. Field studies using current limnological methods and instruments. For biologists, chemists, teachers and sanitarians. Prerequisite(s): 12 hours biology or 6 hours biology plus 6 hours of another science.
- 5280. Aquatic Botany.** 3 hours. (2;3) Ecology, identification and management of aquatic plants and algae. Special emphasis on the role of aquatic plants in reservoir and river ecosystems. Prerequisite(s): 8 hours of biology.
- 5300. Physiological Ecology.** 3 hours. Physiological, behavioral and biochemical adaptations of animals to environmental limiting factors, including temperature, oxygen, water, salinity, light and toxic chemicals.
- 5340. Molecular Biology.** 3 hours. Mechanisms and regulation of genetic expression, chromosome replication, mutagenesis and DNA repair, and gene cloning in prokaryotic and eukaryotic systems. Prerequisite(s): BIOL/BIOC 4570/4580 and at least two of the following: BIOC 4540/4550/4560 or BIOL 3510/3520. (Same as BIOC 5340.)
- 5360. Chemistry of Water and Water Pollution.** 4 hours. (3;3;0) Chemical and engineering approaches to water and waste water treatment. Laboratory studies for assessing chemicals in water and waste water. Application of standardized analytical methods for evaluating water quality. Prerequisite(s): 6 hours of chemistry.
- 5380. Fundamentals of Aquatic Toxicology.** 3 hours. (2;3) Theory and methodologies used by scientists, regulatory agencies and industry to measure the impact of man's activities on freshwater aquatic ecosystems. The course has its foundations in history, but concentrates on current methodologies and theories.
- 5400. Wetland Ecology and Management.** 4 hours. (3;4) Ecology and management of various types of wetlands with emphasis on the role of aquatic and wetland plants in determining wetland structure and function. Wetland restoration and creation for wildlife habitat or water quality benefits are reviewed.
- 5420. Industrial Microbiology.** 3 hours. Use of microorganisms and microbial processes in the pharmaceutical, chemical and food industries. Prerequisite(s): biochemistry.
- 5440. Stream Ecology.** 4 hours. (3;4) Ecological principles of how stream dynamics influence the biological and hydrologic patterns and processes occurring in stream ecosystems. Laboratory studies designed to teach techniques and to test hypotheses related to environmental assessment. Prerequisite(s): 3 hours of ecology. (Same as BIOL 4440.)
- 5460. Eukaryotic Genetics.** 3 hours. Research and theory in eukaryotic genetics with an emphasis in metazoan genetic model systems and human genetics, including chromosome structure, genomic analysis, developmental genetics and diseases. Prerequisite(s): BIOL 3451/3452 and BIOL 3510/3520; molecular biology or biochemistry suggested (may be taken concurrently).
- 5470. Laboratory Techniques in Cytology.** 1 hour. (0;3;1) Cytological techniques in plants, animals and humans, including karyotyping, cell and tissue culture, and sex chromatin analysis. Prerequisite(s): consent of department. May be taken with or without BIOL 5490.
- 5490. Cytology and Cyto genetics.** 3 hours. Cell structure and function in plants and animals with emphasis on genetic and chromosomal aberrations. Prerequisite(s): consent of department.
- 5501. Bacterial Diversity and Physiology.** 3 hours. Comparative survey of bacteria. Growth, ecology, metabolism, energy transformations, differentiation and adaptive mechanisms.
- 5502. Bacterial Diversity and Physiology Laboratory.** 1 hour. Isolation of bacteria from nature. Enrichment methods, morphology, enumeration of bacterial growth and enzymes. Prerequisite(s): BIOL 5501 (may be taken concurrently).
- 5503. Plant Physiology.** 3 hours. Plant physiology from the molecular to organismal level with ecosystem considerations. Topics include nutrient acquisition and distribution, biochemistry and metabolism, growth and development.

- 5505. Comparative Animal Physiology.** 3 hours. Comparison of structure and physiological function in a wide variety of animals. Emphasis on thermoregulation and on respiratory, circulatory, excretory, endocrine and digestive systems. Prerequisite(s): 8 hours of biology.
- 5510. Advanced Immunology.** 3 hours. Immune defense mechanisms, including immunobiology, immunochemistry, serology, immune responses to infectious agents, allergy and autoimmune diseases.
- 5520. Invertebrate Biology.** 4 hours. (3;3) Biology of non-vertebrate animals with emphasis on anatomical, physiological and behavioral adaptations to varied environments and phylogenetic relationship. Prerequisite(s): 6 hours of biology.
- 5570. Aquatic Insects of North America.** 4 hours. (3;4) Ecology, sampling methods, systematics and classification of Nearctic aquatic insects at the family level; use of keys and key terminology in aquatic insect identification. Prerequisite(s): invertebrate zoology or entomology, or consent of instructor.
- 5580. Molecular Biology and Biotechnology Laboratory.** 2 hours. (0;5) Experiments in recombinant DNA techniques, gene regulation and other areas of molecular biology. Prerequisite(s): BIOL or BIOC 5340 (may be taken concurrently). (Same as BIOC 5580.)
- 5620. Human Development.** 3 hours. Basic embryology, human reproduction, child development (physiological and cognitive) from the neonatal period through the teenage years.
- 5630. Human Teratology.** 3 hours. Principals of teratology and embryology, including study strategies, reproduction toxicants, drugs and lactation, risk assessment, and known human teratogenic agents.
- 5650. Environmental Science Field Course.** 6 hours. (3;5) Advanced field methods and approaches for analysis of the physical, chemical and ecological aspects of aquatic, terrestrial and estuarine ecosystems are covered. On a rotating basis, the field course focuses on alpine lakes, deserts and estuaries. Prerequisite(s): consent of instructor. May be repeated for credit as topics vary.
- 5670. Natural History and Philosophy of Rivers.** 6 hours. (3;5) Ecological, geological and philosophical history of arid watersheds of the western United States. Extended field trip required. Desert canyons are geologically unique and present wonderful opportunities to study interactions of geology, fauna, flora, environment, cultural development and environmental ethics. Prerequisite(s): consent of instructor. (Same as PHIL 5670.)
- 5700. Procedures and Materials for Science Instruction.** 3 hours. (2;4) Problems, techniques and procedures for classroom and laboratory experiences based on current science education research. Recommended for students who desire secondary teacher certification in a science field. Field experience in the public schools is a required component. Prerequisite(s): completion of undergraduate science courses required for certification and consent of department.
- 5720. Sediment Toxicology.** 3 hours. Mechanisms of contaminant transport and fate in freshwater and marine sediments and pollutant effects at the individual, population and biotic community levels. Sediment contaminant bioavailability and bioaccumulation into food webs and the scientific aspects of legal control and remediation of hazardous sediments. Prerequisite(s): one year of chemistry and biology or consent of department.
- 5750. Neuroscience.** 3 hours. Brain chemistry, physiology and anatomy; neural basis of memory, perception, rhythms, emotion, cognition; development of the nervous system; neurological disorders. Prerequisite(s): 16 hours of biology or consent of department. (Same as BIOL 4750.)
- 5760. Neurobiology Laboratory.** 1 hour. (0;3) Vertebrate neuroanatomy and experimental neurobiology using electrophysiological and behavioral methods. Prerequisite(s): concurrent enrollment in BIOL 6460 or consent of department.
- 5800. Microbial Genetics.** 3 hours. Genetic structure, inheritance and gene expression in microorganisms and their viruses. Prerequisite(s): consent of department.
- 5830. Advanced Genetics.** 3 hours. Genetic structure and inheritance in viruses, bacteria and higher organisms, including gene biochemistry, gene expression, population genetics, cytogenetics and organelle genetics. Prerequisite(s): consent of department.
- 5840. Medical Genetics and Genetic Counseling.** 3 hours. Human genetics, including cytogenetics, immunogenetics, population genetics, molecular genetics, human biochemical genetics and genetic counseling. Prerequisite(s): BIOL 3350 or equivalent.
- 5860. Biological Sciences Seminar Series.** 1 hour. A weekly seminar series covering a broad range of biological research topics. Invited speakers are prominent local, regional or national researchers. May be repeated for credit. Pass/no pass only.
- 5880. Environmental Sciences Seminar Series.** 1 hour. A weekly seminar series covering a broad range of environmental research topics. Invited speakers are prominent local, regional or national researchers. May be repeated for credit. Pass/no pass only.
- 5900-5910. Special Problems.** 1–3 hours each. Independent study or laboratory research for the master's level. Problem must be approved by the major professor. No more than 6 hours can be counted toward a master's degree.
- 5920-5930. Research Problems in Lieu of Thesis.** 3 hours each.
- 5950. Master's Thesis.** 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit. Prerequisite(s): approved thesis proposal must be filed with department graduate office prior to enrollment.
- 5960. Science Institute.** 1–6 hours. For students who assist in instruction or participate in special research workshops. Prerequisite(s): consent of department. No more than 6 hours may be counted toward a degree.
- 6010. Biology Seminar.** 1 hour. Weekly lectures on research in biology and related disciplines. Prerequisite(s): consent of department. May be repeated for credit as topics vary.
- 6070. Ecology of Benthic Organisms.** 4 hours. (3;2;1) Adaptations, biotic interrelationships and population characteristics of bottom-dwelling aquatic organisms. Field techniques, population analysis and dynamics in both lentic and lotic habitats. Prerequisite(s): BIOL 2140 or equivalent, and a minimum of 7 hours advanced or graduate ecology.
- 6080. Current Advances in Pharmacology.** 3 hours. Course covers the latest advances in pharmacology on a rotating basis, with emphasis on neuropharmacology, autonomic pharmacology and biochemical/molecular pharmacology. May be repeated up to a total of three times to cover all aspects.

6150. Communication in Scientific Teaching and Research. 3 hours. A seminar and workshop that cover lecture course techniques, laboratory preparation and teaching, seminar techniques, research presentations at scientific meetings, research publications, research proposals, scientific illustration, photography, departmental and university services for teaching and research, and job-seeking techniques in academe, government and industry.

6200. Bioinstrumentation and Analytical Techniques. 4 hours. (3;0;1) Current research instrumentation and techniques in biological sciences. Prerequisite(s): consent of department.

6220. Biostatistics. 6 hours. Statistical methods and experimental design; descriptive statistics; data presentation; parametric and non-parametric methods of hypothesis testing, including two-sample tests, analysis of variance, regression and correlation analyses; introduction to multivariate statistics. Competency with computer statistical packages is developed. Computer fee required.

6240. Multivariate Biostatistics. 2 hours. Application of techniques, e.g., multiple regression, discriminate, factor and cluster analyses, to explore multivariable biological and environmental data in a seminar setting. Emphasis is placed on concepts and applications rather than theory and development. Prerequisite(s): BIOL 6620 or graduate level statistics and familiarity with either SAS or SSPS statistical software.

6320. Remote Sensing. 4 hours. (3;3) The theoretical bases and practical aspects of digital remote sensing. Remote sensing technology is reviewed and data analysis techniques are presented. Approaches to the development of a remote sensing project are given. Hands-on experience is provided in the laboratory. Prerequisite: GEOG 5170 is recommended.

6341. Advanced Environmental Impact Assessment. 3 hours. Advanced topics in preparing environmental impact assessments and statements by examining deficiencies and inadequacies of environmental assessments and impact statements (i.e., was the analysis adequate), as defined by U.S. District, Appeals and Supreme Court decisions. Prerequisite(s): BIOL 5100 or equivalent.

6360. Environmental Engineering. 4 hours. (3;3) Water, land and air pollution control technologies are presented. Engineering approaches to pollution problems are demonstrated by considering technical feasibility and economic constraints. Laboratory exercises provide instruction for quantitative analysis of water and waste water; field trips to various pollution-control facilities. Prerequisite(s): CHEM 1410-1420 and 1430-1440.

6370. Aquatic Chemistry. 3 hours. Quantitative treatment of the variables that determine the composition of natural waters and factors governing natural water cycles.

6380. Environmental Chemistry. 4 hours. (3;1) Thermodynamics and kinetics of physical and chemical reactions under environmental conditions. Transfer of laboratory results to field situations. Offers basic knowledge necessary to understand the fate and transport of chemicals in the atmosphere and hydrosphere. Prerequisite(s): 15 hours of chemistry.

6390. Techniques in Environmental Analysis. 4 hours. (3;3) Theory and application of advanced analytical chemistry techniques for metals and organics in environmental and biological samples. Introduces methods for trace metals analysis and identification, and organics separation and identification techniques. Laboratory teaches state-of-the-art spectroscopic and chromatographic techniques.

6400. Ecological Risk Assessment. 3 hours. A detailed treatment of aquatic and terrestrial methods and procedures used to assess the ecological hazard of chemicals in the environment. Emphasizes quantitative methods in testing site assessment, monitoring procedures, regulatory requirements and field and laboratory techniques useful to assess damage to aquatic, terrestrial and avian resources. Prerequisite(s): ecology, statistics, general chemistry (8 hours), or consent of instructor.

6460. Cellular Neuroscience. 3 hours. A detailed examination of the nervous system, specifically neuroanatomy, neurophysiology, neurochemistry and sensory transduction. Prerequisite(s): consent of department.

6480. Systems Neuroscience. 3 hours. A detailed examination of the major brain functions, including sensation, perception, movement, emotions, language, thought and memory. Prerequisite(s): BIOL 6460 or equivalent, or consent of department.

6500. Brain Development and Plasticity. 3 hours. Development of the nervous system from early embryo through adulthood; neurogenesis, cell migration, differentiation, synaptogenesis; similarities among mechanisms of ontogeny, learning and regeneration; emphasis on experimental approaches. Prerequisite(s): BIOL 4750 or 6480 or equivalent is recommended.

6540. Neurochemistry. 3 hours. Chemistry of the nervous system and behavior; pharmacology, anatomy and physiology of neurotransmitter systems; current techniques in neurochemistry and neuropharmacology. Prerequisite(s): BIOL 4750 or 6460 or equivalent, and one term/semester of undergraduate biochemistry are recommended.

6600. Advanced Molecular Biology. 3 hours. Genetic structure and regulation of gene expression in prokaryotic and eukaryotic organisms; mechanisms of gene action, gene/enzyme relationships and metabolic control; biochemical manipulation and characterization of genetic macromolecules. Prerequisite(s): BIOL 4570 or 5340 or equivalent. (Same as BIOC 6600.)

6620. Advanced Cell Biology. 3 hours. Structure and function of animal and plant cells with emphasis on cell membranes, cytoplasmic organelles and the nucleus; readings in current literature. Prerequisite(s): biochemistry, BIOL 3510/3520 or equivalent, or consent of department. (Same as BIOC 6620.)

6900-6910. Special Problems. 1-3 hours each. Independent study or laboratory research for doctoral students. Problem must be approved by major professor. No more than 6 hours may be counted toward a degree.

6940. Individual Research. 1-12 hours. Doctoral research of independent nature. Number of hours counted toward the PhD determined by major professor and graduate advisory committee. Pass/no pass only.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of department. 12 hours of credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit. Prerequisite(s): approved dissertation research proposal must be filed with department graduate office prior to registration.

Molecular Biology

Related Courses Offered at Texas Woman's University

Students who wish to enroll in the following TWU courses may do so through a cross-registration mechanism administered by the Toulouse School of Graduate Studies at UNT.

BACT 6534. Plasmids as Vectors for Recombinant DNA. 4 hours. Molecular structure and replication of plasmids. Utilization of plasmids for isolation, characterization, and expression of prokaryotic and eukaryotic genes. One lecture, 6 laboratory hours a week.

BACT 6544. Viruses as Vectors for Recombinant DNA. 4 hours. Replicative cycle of viruses utilized in recombinant DNA technology. Viruses used to isolate genetic material from other sources and characterization of the recombinant DNA by size, restriction endonuclease mapping and nucleic acid sequencing. One lecture, 6 laboratory hours a week.

BIOL 5123. Biostatistics. 3 hours. Advanced studies in biometric systems, experimental design and data analysis. 3 lecture hours a week. Prerequisite(s): 12 hours of biology and permission of instructor.

BIOL 5653. Human Development. 3 hours. Fundamentals of human embryology, the anatomy of human development and pathology of development. Emphasis on normal and pathological aspects of human gestation. Lectures, films, student reports and tests. 3 lecture hours a week.

BIOL 5703. Radiation, Protection and Dosimetry. 3 hours. Interactions of ionizing radiations and matter, radiation instrumentation, determination of radiation, case and principles of radiation protection. 3 lecture hours a week. Prerequisite(s): one year of physics and permission of instructor.

BIOL 6334. Advanced Cell Biology. 4 hours. Survey of current understanding of biogenesis, architecture and function of cellular organelles. The cell cycle and regulation of cell growth. 4 lecture hours. Prerequisite(s): permission of instructor.

BIOL 6513. Molecular Biology. 3 hours. Survey of current understanding of DNA structure, organization, chromosome replication, gene transcription, ribosome assembly and translation. Emphasis is on molecular processes and their regulation in both prokaryotes and eukaryotes. 3 lecture hours a week. Prerequisite(s): CHEM 5613 and CHEM 5623 or permission of instructor.

ZOOL 5423. Endocrinology. 3 hours. Advanced studies of biology and biochemistry of the glands of internal secretion. 3 lecture hours a week. Prerequisite(s): ZOOL 4243.

Business Administration, College of

Business Administration, Interdepartmental, BUSI

5190. Administrative Strategy. 3 hours. Capstone course providing the integration of functional areas of business administration. Requires students to determine policy at the general- or top-management level. Students address strategic organizational problems and the optimization of the total enterprise. Course includes the use of lectures, case analysis and special topics. This course must be taken in the student's last term/semester of course work.

5200. Professional Ethics and Corporate Governance. 3 hours. Examination of professional ethics from both a philosophical and business perspective. Ethical reasoning, moral character and moral decision making provide

a framework for examining the importance of ethics in an individual's personal life and professional career. Exploration of the concept of corporate governance and the direction business entities are taking in establishing a sound governance framework. Designed to meet the ethics requirement of the Texas State Board of Public Accountancy, as well as the ethics educational needs of the larger business community. Prerequisite(s): ACCT 5130 or consent of the instructor.

5410. Creative Thinking and the Business Idea. 3 hours. Introduces the professional MBA to students with the major themes developed for the program. The course discusses the essential of entrepreneurship, risk taking and market opportunity. Students are expected to develop a major discussing the market opportunities for a business product or service. Corequisite(s): FINA 5170.

5420. Assessing the Business Opportunity. 3 hours. Investigates what a business professional needs to conduct a thorough industry, market and competitor analysis and to determine the degree of match between the opportunity and the firm. Topics developed are mission and vision, understanding corporate strategy and structure, market segments and demand factors, etc. Corequisite(s): must take ACCT 5130 in the same term/semester. Prerequisite(s): BUSI 5410.

5430. Designing, Creating and Managing the Delivery Systems. 3 hours. Focuses on the essentials of designing, creating and managing the business firm's delivery system. Topics include designing value into products and services, creating and managing distribution channels, quality management ideas, process planning and facility layout. Corequisite(s): BCIS 5120. Prerequisite(s): BUSI 5420.

5440. Growing Business in Changing Environments. 3 hours. Studies the essentials of managing the business firm within evolving environments. Concepts required for monitoring and control, along with tools for decision making. Sets the foundation for other topics such as organizational structures, redesign, threats and opportunities, and adjusting delivery and communications systems to dynamic environments. Corequisite(s): DSCI 5180. Prerequisite(s): BUSI 5430.

5900. Special Problems. 1–3 hours. Open to graduate students who are capable of developing a problem independently. Problem chosen by the student and developed through conferences and activities under the direction of the instructor. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Programs Office prior to registration.

5920-5930. Problems in Lieu of Thesis. 3 hours each.

6100. Seminar in University Teaching for Business Administration. 3 hours. Topics in teaching methodologies. Focus on those topics that provide doctoral students with practical teaching tips to help them become more effective teachers. Different learning styles are addressed and frameworks, theories and teaching models are presented that help doctoral students continually improve their teaching throughout their career.

6220. Applied Regression Analysis. 3 hours. Applications of multivariate regression analysis, canonical correlation analysis and nonparametric statistical procedures to issues in business research involving multivariate data. Topics include building, evaluating and validating a regression model; analyzing models using hierarchical regression, contrast coding, partial correlations and path analysis; and comparing parametric and corresponding nonparametric tests. Prerequisite(s): DSCI 5180 or equivalent and BUSI 6450 (may be taken concurrently).

6240. Applied Multivariate Statistics. 3 hours. Applications of multivariate statistical procedures involving data reduction techniques and analyzing multidimensional relationships in business research. Topics include multivariate analysis of variance, discriminant analysis, logistic regression, exploratory factor analysis, cluster analysis, multidimensional scaling and conjoint analysis. Prerequisite(s): BUSI 6220.

6280. Applications in Causal and Covariance Structure Modeling. 3 hours. Application of CSM techniques to the analysis of behavioral data in business research. "Hands-on" practice using LISREL to examine measurement and structural models containing directly observed and latent variables. Provides a solid working knowledge of how to conceptualize measurement and structural models, the standard LISREL and SIMPLIS syntax for estimating these models, and proper interpretation of LISREL output. LISREL assumptions, limitations, tricks and traps are explored. Specific topics include reviews of causality and path analysis, covariance algebra, creating path diagrams and structural equations, LISREL notation and syntax, considerations in model identification, estimation, evaluation and interpretation. Specific application areas include confirmatory factor analysis and its extensions, causal models with directly observed and latent variables. Course also takes a critical look at the analysis of experimental data, modeling quadratic and interaction terms, analysis of ordinal and other non-normal variables. Prerequisite(s): BUSI 6220, 6240 (may be taken concurrently), and 6450. Students must have a thorough knowledge of multiple regression, factor analysis, ANOVA and ANCOVA. Students are also expected to have a solid grasp of the fundamentals of research design, including how to assess the internal and external validity of research designs, as well as how to assess the validity and reliability of multi-item behavioral measures. Exposure to matrix algebra is encouraged.

6450. Business Research Methods. 3 hours. Designed to introduce PhD students to the methods and measurements of business research, including scientific method, research design and measurement. Prerequisite(s): DSCI 5180 or equivalent.

6460. Foundations of Scientific Inquiry. 3 hours. Seminar in scientific inquiry for doctoral students in business administration. Focus on topics that provide doctoral students with a better understanding of theoretical frameworks used in business research. Form and structure of explanations, laws and theories used in business research are examined and discussed. The seminar is intended to be a rigorous course that exposes doctoral students to an array of topics for understanding basic business research.

6480. Advanced Issues in Research Design. 3 hours. Experimental and quasi-experimental approaches to solving problems using the scientific method. Observation, generalization, explanation and prediction using experimentation and statistical inference. Statistical principles in experimental design including ANOVA and MANOVA techniques. After completing the course, students are prepared for conducting experiments. Prerequisite(s): BUSI 6450 or equivalent.

6900. Special Problems. 1–3 hours. Open to graduate students who are capable of developing a problem independently. Problem chosen by the student and developed through conferences and activities under the direction of the instructor. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Programs Office prior to registration.

Business Computer Information Systems

see Information Technology and Decision Sciences

Business Law

see Finance, Insurance, Real Estate and Law

Chamber Music

see Music

Chemistry

Chemistry, CHEM

5010. Introduction to Graduate Teaching and Research. 2 hours. Topics include university policies, safety in the laboratory, first aid techniques, teaching techniques, audio-visual facilities and operation, use of the university libraries, university/departmental computational facilities, PC facilities and use, and maintaining a research journal. Required for all full-time first-year graduate students. Prerequisite(s): graduate standing in the chemistry department.

5200. Physical Chemistry. 3 hours. A survey of selected topics in physical chemistry, including thermodynamics, mechanics, statistical mechanics, heterogeneous and homogeneous equilibria, and chemical kinetics. Prerequisite(s): CHEM 3520 or consent of department.

5210. Advanced Physical Chemistry. 3 hours. The basic concepts of quantum mechanics are emphasized utilizing several models to aid in the description, such as the square well model, the rigid rotator, the hydrogen atom and the hydrogen molecule ion. The applications of quantum mechanics to chemical systems are considered in terms of resonance, wave mechanics, perturbation and variation methods. Prerequisite(s): pass exemption examination in physical chemistry, or CHEM 5200.

5380. Organic Chemistry. 3 hours. A survey of organic chemistry involving a systematic study of classes of reactions with an integration of fact and theory. Prerequisite(s): CHEM 2380 or consent of department.

5390. Selected Topics in Analytical Chemistry. 3 hours. Topics of current interest, which vary from year to year. Prerequisite(s): consent of department. May be repeated for credit as topics vary.

5450. Advanced Techniques in Analytical Chemistry. 1–3 hours. Methods and instrumentation currently used in the analysis of materials. Presented in modular units of approximately three to four weeks duration. Typical subjects include fundamentals of liquid and gas-liquid chromatography, atomic absorption spectroscopy, polarography and related electroanalytical methods and X-ray fluorescence spectroscopy. Credit: 1 semester hour per module. May be repeated for credit as topics vary. Laboratory fee when laboratory involved.

5460. Surveys of Modern Analytical Chemistry. 3 hours. A survey of modern analytical methods with emphasis on instrumental techniques and data handling, including separation methods, electrochemical methods and spectroscopy. Prerequisite(s): consent of department.

- 5500. Physical Organic Chemistry.** 3 hours. The mechanisms of organic reactions and the effect of reactant structures on reactivity. Prerequisite(s): pass exemption examination in organic chemistry, or CHEM 5380.
- 5530. Materials Chemistry.** 3 hours. Application of quantum chemical principles to understanding the general behavior of materials. Course will include semiconductors, metals, catalysts and "nano-designed" materials (e.g., quantum wells). Prerequisite(s): CHEM 3520 or equivalent, or consent of department.
- 5560. Inorganic Chemistry.** 3 hours. A survey of inorganic chemistry involving a systematic study of atomic structure, structure and bonding in inorganic and organometallic compounds, and representative inorganic reactions. Prerequisite(s): consent of department.
- 5570. Advanced Analytical Chemistry.** 3 hours. This course covers an advanced treatment of analytical chemistry, including the following topics: advanced separation methods, analytical applications of electrochemistry and spectroscopy, experimental design, sampling and data analysis. Prerequisite(s): pass exemption examination in analytical chemistry, or CHEM 5460.
- 5610. Selected Topics in Physical Chemistry.** 3 hours. Topics of current interest, which vary from year to year. Prerequisite(s): consent of department. May be repeated for credit as topics vary.
- 5620. Selected Topics in Inorganic Chemistry.** 3 hours. Topics of current interest, which vary from year to year. Topics include ligand field theory, physical methods in inorganic chemistry, group theory and molecular symmetry, and recent advances in transition and non-transition metal chemistry. Prerequisite(s): consent of department. May be repeated for credit as topics vary.
- 5640. Selected Topics in Organic Chemistry.** 3 hours. Topics of current interest, which vary from year to year. Prerequisite(s): consent of department. May be repeated for credit as topics vary.
- 5650. Kinetics of Chemical Reaction.** 3 hours. Reactions and reaction rates; determination of rate laws for simple and complex reactions; deduction of reaction mechanisms; reaction energetics; chain reactions; theories of elementary reaction rates; reactions at extreme rates; extra-kinetic probes of mechanism. Prerequisite(s): consent of department.
- 5660. Computational Chemistry and Biochemistry.** 3 hours. (2;3) Introductory course covering the latest techniques for the study of reactions of interest to chemists and biologists via the use of molecular modeling and quantum mechanical simulations. Prerequisite(s): consent of department.
- 5700. Thermodynamics.** 3 hours. Reversible and irreversible thermodynamics of gases, liquids, solids and solutions; free energy relationships of ideal and non-ideal solutions; introduction to statistical calculation of thermodynamic properties. Prerequisite(s): consent of department.
- 5710. Advanced Inorganic Chemistry.** 3 hours. An advanced study of the interrelation of structure, bonding and reactivity of inorganic and organometallic compounds; basic applications of molecular symmetry and group theory to chemical problems. Prerequisite(s): pass exemption examination in inorganic chemistry, or CHEM 5560.
- 5800. Procedures and Materials for Science Instruction.** 3 hours. (2;4) Problems, techniques and procedures for classroom and laboratory experiences based on current science education research. Recommended for students who desire secondary teacher certification in a science field. Field experience in the public schools is a required component. Prerequisite(s): completion of undergraduate science courses required for certification and consent of department.
- 5810. Selected Topics in Chemistry Education.** 3 hours. Topics of current interest that vary from year to year. Prerequisite(s): consent of department. May be repeated for credit as topics vary.
- 5820. Studies in Chemistry Education: Pedagogical Materials and Curriculum Development.** 3 hours. (2;1) Examines national trends in science education curriculum, explores issues associated with materials development and testing as it applies to chemistry curriculum, and engages students in implementing the protocols used within the discipline focusing on chemical demonstration activities.
- 5840. Chemistry Behind the Elements.** 3 hours. The fundamentals of the universe are based on principles of periodicity as revealed in the descriptive chemistry of the elements. Among the areas covered are the characteristics of the families of elements, when and where each element was discovered and by whom the discoveries were made. Also includes the impact these discoveries have had on society and technological advances. Pertinent industrial applications of the elements and materials derived from them are presented.
- 5880. Learning Theories in Chemistry Education.** 3 hours. Survey of chemistry education and preparation for teaching and learning as they have developed, along with pertinent research findings and design from the current literature.
- 5900-5910. Special Problems.** 1–3 hours each. For students capable of developing a problem independently through conferences and activities directed by the instructor. Problem chosen by the student with the consent of the instructor.
- 5920-5930. Research Problems in Lieu of Thesis.** 3 hours each. An introduction to research; may consist of an experimental, theoretical or review topic. A paper conforming to recommendations outlined in the "Handbook for Authors of Papers in the Journals of the American Chemical Society" must be submitted for credit in each course.
- 5940. Seminar in Current Chemistry.** 1 hour. Colloquia covering current topics in chemistry. Required of all full-time graduate students in each term/semester of graduate residence. Prerequisite(s): senior standing. May be repeated for credit. Pass/no pass only.
- 5950. Master's Thesis.** 3 or 6 hours. May be repeated for credit. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun.
- 5960. Science Institute.** 1–6 hours. Courses for students accepted by the university for enrollment in special institute courses. May be repeated for credit, not to exceed a total of 6 hours in each course.
- 6010. Seminar for Doctoral Candidates.** 3 hours. Demonstration of competence in a specific area of chemistry (analytical, organic, physical, inorganic) as evidenced by criteria established by the faculty of each discipline. May be repeated for credit. Six credit hours required.
- 6900-6910. Special Problems.** 1–3 hours each. For doctoral students capable of developing a problem independently through conferences and activities directed by the instructor. Problem selected by the student with the consent of the major professor.
- 6940. Individual Research.** 1–12 hours. Doctoral research of independent nature. May be repeated for credit.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

6990-6991. Individual Research. 1–3 hours each. For postdoctoral fellows to further training and research experience in developing and solving research problems independently. Prerequisite(s): consent of department. May be repeated for credit. Pass/no pass only.

Chinese

see *Undergraduate Catalog*

Communication Studies

Communication Studies, COMM

5080. Introduction to Graduate Study and Research in Communication Studies. 3 hours. Broad perspective on communication studies content areas.

5081. Research Methodologies in Communication. 3 hours. Qualitative and quantitative methodologies for communication studies research.

5220. Organizational Communication. 3 hours. Study of the transmission of information and ideas within an organization with emphasis on the problems encountered in the business world.

5225. Interpersonal Communication. 3 hours. Contemporary research and theory in the study of communication patterns found at various stages of normal interpersonal interactions.

5226. Seminar in Health Communication. 3 hours. Introduction of communication theories and approaches related to health care in interpersonal, organizational and mass communication settings.

5227. Seminar in Intercultural Communication. 3 hours. Provides an opportunity to explore existing and emerging issues, theories and practices in intercultural communication.

5260. Group Performance. 3 hours. Historical and contemporary theoretical approaches to group performance in performance studies and related disciplines; practical experience in scripting and directing group performance.

5280. Communication and Information in the Classroom. 3 hours. The study of the major variables in the communication process and their impact on student learning and satisfaction. Designed primarily for teachers of all levels and content specialties.

5320. Quantitative Research Methods in Communication. 3 hours. Experimental and quantitative techniques usable in research in communication.

5325. Communication Theory. 3 hours. A survey of scientific and humanistic perspectives on the communication process and social contexts in which it occurs.

5340. Rhetorical Methods. 3 hours. The use of critical and rhetorical theories in the investigation and evaluation of rhetorical acts and artifacts.

5345. Rhetorical Theory. 3 hours. An examination of significant rhetorical theories and theorists.

5360. Performance Criticism. 3 hours. Theories of value and evaluation in performance studies and their influence on the practice of criticism, in general, and performance criticism, in particular. Contexts range from everyday acts of evaluation to formal, public instances of criticism.

5365. Performance Theory. 3 hours. Historical and contemporary theoretical approaches to performance studies, including theories from related disciplines and their impact on theory and practice in performance studies.

5380. Theory and Research in Persuasion. 3 hours. Recent theory and research on the persuasive process. Includes effects of variables in public, interpersonal, organizational and mass communication contexts.

5425. Gender and Communication. 3 hours. Examination of research and theory in gender and communication, investigating how communication structures gender and how gender affects communication.

5440. Public Address Studies. 3 hours. Research and theory in the critical interpretation and assessment of public discourse.

5460. Narrative Theory. 3 hours. Examination of theories of narrative and narrative structure and their significance. The study of narrative and nonnarrative phenomena, including fiction, drama, film and politics.

5480. Practicum. 3 hours. Training in the teaching of some aspect of communication. Under the supervision of a faculty member, the student prepares and presents instructional units, conducts class discussions and handles administrative matters peculiar to the type of course involved. No more than 3 hours may apply toward master's degree. Duties performed under teaching fellowships or graduate assistantships do not earn credit in this course.

5481. Graduate Internship. 3 hours. Supervised work in a job related to the student's major, professional field of study or career objective. Prerequisite(s): 9 graduate hours in communication; two letters of recommendation from professors in department; and consent of internship director.

5520. Communication and Conflict. 3 hours. Examines the role of communication used in managing conflict in its most common contexts: intrapersonal, interpersonal, group, organizational, professional, social and international. Theory and research are examined to develop more effective communication in conflict situations.

5525. Communication and Change. 3 hours. A study of the impact of human communication on the process of change in formal and informal organizations with emphasis on understanding and planning change.

5540. Freedom of Expression. 3 hours. Theories, statutes and cases involving the First Amendment guarantee of freedom of speech.

5560. History of Performance Studies. 3 hours. Philosophies, conventions and techniques that have contributed to the formation of contemporary performance theory. Examines performance approaches from classical to contemporary eras.

5625. Communication Consulting. 3 hours. Examination of organization communication consulting and of communication theorists and practitioners. Opportunities to develop and/or refine training and facilitating skills and unique models of communication consulting.

5720. Communication Style and Competence. 3 hours. Examination of the major theoretical and empirical approaches to style and competence in communication. Issues of conceptualization, assessment, instruction and training in communication style and competence are covered.

5820. Seminar in Communication Processes. 3 hours. Contemporary research and theory in communication processes. Rotating topics. May be repeated for credit as topics vary.

5840. Seminar in Rhetorical Studies. 3 hours. Contemporary research and theory in oral rhetorical studies. Rotating topics. May be repeated for credit as topics vary.

5860. Seminar in Performance Studies. 3 hours. Contemporary research and theory in performance studies. Rotating topics. May be repeated for credit as topics vary.

5880. Seminar in Communication Studies and Research. 3 hours. Rotating topics. May be repeated for credit as topics vary.

5900-5910. Special Problems. 1–3 hours each. For students capable of developing a problem independently through conferences and activities directed by the instructor. Problem chosen by the student with the consent of the department director.

5920-5930. Research Problems in Lieu of a Thesis. 3 hours each.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

Community Service

see Public Affairs and Community Service

Composition, Music

see Music

Computer Education and Cognitive Systems

see Technology and Cognition

Computer Engineering

see Computer Science and Engineering

Computer Science and Engineering

Computer Science and Engineering, CSCE

5011. Introduction to Computer Applications. 3 hours. Use of the computer as a tool in other disciplines. Emphasis is on familiarization with the capabilities of packaged programs such as statistical libraries. Preparation of input for and interpretation of output from these programs. Introduction to programming may not count toward a major in computer science.

5012. Computer Methods. 3 hours. Use of software tools for the solution of problems in a variety of disciplines. Prerequisite(s): 3 hours of computer science. May not count toward a major in computer science.

5013. Problem-Solving in High-Level Languages. 4 hours. Algorithms, pseudocode, flow charts, structured techniques of problem-solving and program design using high-level

programming languages. Prerequisite(s): 6 hours of mathematics and/or statistics. Leveling course for computer science majors.

5020. Current Research in Computer Science and Engineering. 1 hour. Weekly seminar series covering current research topics in computer science and engineering, including presentations of active research projects by faculty, graduate students and visitors. Required of all full-time graduate students in their first fall term/semester of graduate study. Pass/no pass only.

5150. Analysis of Computer Algorithms. 3 hours. Study of efficient algorithms for various computational problems. Topics include advanced techniques of algorithm design: divide-and-conquer, the greedy method, dynamic programming, search and traversal, back-tracking and branch-and-bound. Other topics include NP-Completeness theory, including approximation algorithms and lower bound theory, and probabilistic algorithms. Prerequisite(s): CSCE 4110.

5160. Parallel Processing and Algorithms. 3 hours. Taxonomy of parallel computers; shared-memory vs. message-passing architectures; theoretical models; parallel algorithm design strategies; parallel data structures; automatic parallelization of sequential programs; communication; synchronization and granularity. Prerequisite(s): CSCE 4110 or 5150.

5170. Graph Theory. 3 hours. Computer science oriented graph theory. Topics include connected and disconnected graphs, Hamiltonian circuits, trees and fundamental circuits, coloring, algorithms and computer programs, switching and coding theory, and electrical network analysis. Prerequisite(s): CSCE 3110 and 4110 or equivalent, or consent of the instructor.

5200. Information Retrieval and Web Search. 3 hours. Covers traditional material and recent advances in information retrieval, study of indexing, processing and querying textual data, basic retrieval models, algorithms and information retrieval system implementations. Covers advanced topics in intelligent information retrieval, including natural language processing techniques and smart web agents. Prerequisite(s): CSCE 3110 or equivalent.

5210. Artificial Intelligence. 3 hours. Advanced study of issues relevant in the design of intelligent computer systems. Topics included in this course are search techniques, knowledge representation, issues in natural language processing and the design of expert systems. Prerequisite(s): CSCE 5211 or consent of department.

5211. Non-Numeric Programming. 3 hours. Programming techniques and data structures appropriate to non-numeric programming, including object-oriented programming. Use of languages similar to LISP and PROLOG. Prerequisite(s): CSCE 3110 or equivalent.

5212. Foundations of Logic Programming. 3 hours. Logic programs, including definite, normal and general types. Inference methods, including forward-chaining, backward-chaining and deduction graphs. Theorem proving and deductive databases. Unification, soundness and completeness of resolution-refutation process and PROLOG. Prerequisite(s): CSCE 4310.

5213. Modeling and Simulation. 3 hours. Modeling of business and scientific discrete-event processes. Directed graphs. Critical path analysis. Queuing theory. Markov processes. Stochastic models. Introductions to systems simulation and industrial dynamics. Programming languages for simulation. Prerequisite(s): 6 hours of programming and 3 hours of statistics. (Same as DSCI 5250.)

5215. Machine Learning. 3 hours. Theory and practice of machine learning. Decision trees, neural network learning, statistical learning methods, genetic algorithms, Bayesian learning methods, rule-based learning and reinforcement learning. Improved learning through bagging, boosting and ensemble learning. Practical applications of machine learning algorithms. Prerequisite(s): CSCE 3110.

5220. Computer Graphics. 3 hours. Basic principles for the design, use and understanding of graphics systems. Design and implementation of graphics software packages, applications and algorithms for creating and manipulating graphics displays. Prerequisite(s): CSCE 3110 and one term/semester of linear algebra.

5230. Methods of Numerical Computations. 3 hours. Introduction to numerical methods and mathematical software for scientific computation. Floating-point number systems, machine precision, cancellation error, conditioning and stability. Linear systems, Gaussian elimination and matrix decomposition. Polynomial and spline interpolation. Numerical integration. Ordinary differential equations. Non-linear equations. Prerequisite(s): calculus (two terms/semesters), linear algebra (one term/semester) and CSCE 5013 or equivalent programming experience.

5270. Computer-Human Interfaces. 3 hours. Emphasizes human performance in using computer and information systems. Topics for software psychology include programming languages, operating systems control languages, database query facilities, computer-assisted dialogues, personal computing systems, editors, word processing and terminal usage by non-skilled users. Prerequisite(s): CSCE 3110 or equivalent.

5290. Natural Language Processing. 3 hours. Introduction to natural language processing; modern theories of syntax; context-free parsing; transformational syntax and parsing; augmented transition networks; and survey of natural language processing systems. Prerequisite(s): CSCE 3110 or equivalent.

5350. Database Systems I. 3 hours. Introduction to the design and use of database systems. Topics include data models, database query languages, logical database design and dependency theory. Prerequisite(s): CSCE 4350.

5360. Database Systems II. 3 hours. Overview of database management systems implementation and introduction to emerging database technologies. The topics covered include: data storage structures, query processing and optimization, transaction management, and database system architectures. Prerequisite(s): CSCE 5350.

5400. Automata Theory. 3 hours. Deterministic and non-deterministic finite automata, regular expressions and sets, context-free grammars and pushdown automata. Turing machines as acceptors, enumerators and computers. Church's thesis, universal Turing machines and the halting problem, the Chomsky hierarchy and intractable problems. Prerequisite(s): CSCE 3110 or equivalent.

5420. Software Development. 3 hours. Systems analysis, software requirements analysis and definition, specification techniques, software design methodologies, performance measurement, validation and verification, and quality assurance techniques. Prerequisite(s): CSCE 4410.

5430. Topics in Software Engineering. 3 hours. Case tools, module implementation, testing, system delivery in the work place, scheduling and budgeting, project management, configuration management, software development tasks and ethical issues. Prerequisite(s): CSCE 3110 or equivalent.

5440. Real-Time Software Development. 3 hours. Specification of real-time system requirements, timing, synchronization and fault-tolerance issues, construction and

validation of real-time software. Mathematical formalisms, design and analysis using real-time UML are also emphasized. Prerequisite(s): CSCE 4620.

5450. Programming Languages. 3 hours. Notations for description of language syntax and semantics. Properties of algorithmic languages: scope of variables, binding time, subroutines and co-routines. Data abstraction, exception handling and concurrent programming. Dialects and standardization. Prerequisite(s): CSCE 3110 or equivalent.

5510. Wireless Communications. 3 hours. Fundamentals of wireless communications. Topics covered include radio propagation channel characteristics and models, modulation, coding and receiver signal processing techniques in fading channels, multiple access techniques for wireless systems, fundamentals of wireless networks, and major cellular and wireless LAN standards. Prerequisite(s): CSCE 3510.

5520. Wireless Networks and Protocols. 3 hours. Architecture and elements of a wireless network. Use and process of mobility management. Signaling schemes used in wireless networks, network signaling, protocols and standards (GSM, IS-95, WAP, MobileIP, GPRS, UMTS and CDMA2000). Analysis of the operation and performance of wireless protocols. Prerequisite(s): CSCE 3600.

5530. Computer Network Design. 3 hours. Fundamental concepts, requirements and design tradeoffs, particularly as related to scheduling, congestion control, routing and traffic management. Wireless access, mobility (including WLAN), VoIP and applications. Firewalls, NATs, VPN, high availability and optical rings. Prerequisite(s): CSCE 3530.

5540. Introduction to Sensor Networks. 3 hours. Fundamentals of wireless sensor networks. Topics include: design implications of energy (hardware and software), and otherwise resource-constrained nodes; network self-configuration; services such as routing under network dynamics, localization, time-synchronization and calibration; distributed data management, in-network aggregation and collaborative signal processing, programming tools and language support. Prerequisite(s): CSCE 3600

5550. Introduction to Computer Security. 3 hours. Theory and practice of computer security, stressing security models and assurance. Security goals, threats and vulnerabilities. Cryptography, program security and operating system security issues. Basic network security. Planning, policies and risk analysis. Prerequisite(s): CSCE 2610 or consent of instructor.

5560. Secure Electronic Commerce. 3 hours. Electronic commerce technology, models and issues, with emphasis on security issues. Supporting technology such as cryptography, digital signatures, certificates and public key infrastructure (PKI). Security-conscious programming for web-based applications. Exposure to interaction between technical issues and business, legal and ethical issues. Includes a research project. Prerequisite(s): CSCE 3110.

5570. Digital Communications. 3 hours. Decision theory, signal space, optimal receivers, modulation schemes, error performance, bandwidth, channel capacity, block coding, convolutional coding, trellis coded modulation, intersymbol interference, fading channels and spread spectrum. Prerequisite(s): CSCE 3020.

5580. Computer Networks. 3 hours. Study of problems and limitations associated with interconnecting computers by communication networks. ISO reference model, architecture of circuits, message and packet switching networks, network topology, routing, flow control, capacity assignment, protocols, coding and multiplexing. Prerequisite(s): CSCE 4600 and 5610.

5610. Computer System Architecture. 3 hours. The macro structure and instruction set of computer systems. Survey of characteristic architectures of central processors and systems. Topics selected from mini-, micro-, large-scale and highly parallel computers. I/O control; associative memories; characteristics of storage devices; paging; multiprocessors; terminals. Design of the computer utility and other communications-oriented systems. Prerequisite(s): CSCE 2610 and 3600

5620. Real-Time Operating Systems. 3 hours. Basic real-time operating systems concepts and services, including interrupt processing, process and thread models, real-time software architectures and development environments. Detailed study of the design and implementation of real-time applications using real-time operating systems. Focus on commercial real-time operating systems/development environments, including vxWorks, RTOS, MicroC/OS-II and pOSEK/pOSEKSystem. Prerequisite(s): CSCE 3600 and 3610.

5640. Operating System Design. 3 hours. Advanced topics such as operating system design, job control languages, problems of multiprogramming and multiprocessing, computer networks, interaction, overlays, paging and accounting for resource usage (customer billing and hardware monitoring). System architecture. Interactive computers: time sharing, real-time and process control.) Prerequisite(s): CSCE 3600. May be repeated for credit with consent of department.

5650. Compiler Design. 3 hours. Formal language specification, lexical analysis, parsing, code generation, error recovery techniques and optimization. Detailed study of two or three compilers. Prerequisite(s): CSCE 5400.

5730. Digital CMOS VLSI Design. 3 hours. Introduction to VLSI design using CAD tools, CMOS logic, switch level modeling, circuit characterization, logic design in CMOS, systems design methods, test subsystem design, design examples, student design project. Design project to be fabricated and tested in a follow-up course. Prerequisite(s): ELET 3720 and CSCE 3730.

5750. VLSI Testing. 3 hours. Advanced experience with CAD tools for VLSI design, IC testing. Design project from CSCE 5730 to be fabricated and tested. Implementation and verification of test programs, IC testing and troubleshooting, legal, economic, and ethical design issues. Oral presentations and written reports are required. Prerequisite(s): CSCE 5730.

5760. Design for Fault Tolerance. 3 hours. Introduction to the hardware and software methodologies for specifying, modeling and designing fault-tolerant systems supported by case studies of real systems. The material presents a broad spectrum of hardware and software error detection and recovery techniques that can be used to build reliable networked systems. The lectures discuss how the hardware and software interplay, what techniques can be provided in COTS hardware, what can be embedded into operating system and network communication layers, and what can be provided via distributed software layer and in the application itself. Prerequisite(s): CSCE 5730.

5900-5910. Special Problems. 1–3 hours each. Independent study and research of a specific problem in a field of computer science and engineering or its application. A report is required defining the problem and developing a solution. The work may be supervised by any member of the graduate faculty. Prerequisite(s): 8 hours of computer science and engineering with grades of A or B; prior approval of written plan by the faculty supervisor and by the computer science and engineering department chair. May be repeated for credit.

5920-5930. Research Problem in Lieu of Thesis. 2–4 hours each. Independent research of a specific problem in a field of computer science and engineering. The work is supervised by a member of the faculty of the Department of Computer Science and Engineering, and a final written report must be approved by the supervising faculty and the department chair. Prerequisite(s): Approval of student's research plan by a computer science and engineering faculty member.

5932. Internship. 1 hour. Supervised work in a job that meets specific educational and career objectives of the student. Requires submission of a final report summarizing industrial experience gained through the internship. Prerequisite(s): consent of department.

5933. Topics in Computer Science and Engineering. 3 hours. Advanced study of languages, files and processing techniques with applications selected from reservations systems, inventory systems and other administrative applications, process control, computer-assisted instruction, information storage and retrieval, artificial intelligence, heuristic programming and so forth, depending on class interest. Prerequisite(s): 6 hours advanced courses in computer programming. May be repeated for credit with consent of instructor.

5934. Directed Study. 1–4 hours. Study of topics in computer science and engineering by individuals or small groups. A student taking CSCE 4890 or 5934 may work with other students taking these courses on the same topic if the faculty supervisor agrees. The student is to prepare a plan for study of a topic and a plan for evaluation of study achievements. Prior approval by the computer science and engineering department chair and a graduate faculty member who agrees to supervise the work is required for the plan. Prerequisite(s): 6 hours of computer science and engineering with a grade of A or B. Open to students with graduate standing who are capable of developing problems independently. May be repeated for credit.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

6100. Theory of Computation. 3 hours. Computation by abstract devices, time complexity, inherent complexity of problems, complexity hierarchies, reductions, nondeterminism and NP-completeness, approximation and intractable problems. Prerequisite(s): consent of department.

6150. Complexity of Parallel Computation. 3 hours. Models of parallel computation—justification and buildability; inherent parallelism and communication costs; techniques for efficient parallelization. Lower and upper complexity bounds; the classes NC and SC: P-complete problems; the parallel computation thesis. Prerequisite(s): CSCE 5150 or 5160.

6210. Design and Implementation of Expert Systems. 3 hours. Problems in knowledge acquisition, knowledge representation issues, representation of meta-knowledge, use of statistical measures to limit search of the knowledge base and knowledge verification. Prerequisite(s): CSCE 5210.

6213. Advanced Modeling and Simulation. 3 hours. Current research issues in both simulation methodology and applications are discussed. Distributed simulation, simulation support tools, objects-oriented simulation, and artificial intelligence and simulation. Prerequisite(s): CSCE 5213 or consent of department.

6220. Advanced Computer Graphics. 3 hours. Research and study of specific problems in the field of computer graphics. Focuses on topics current to the field. Includes, but is not limited to, areas such as design and construction of computer graphics systems, both software and hardware; the theory and use of color and shading; algorithms for solid object modeling; and the use of graphics packages in computer-aided design. Prerequisite(s): CSCE 5220 or consent of department.

6230. Advanced Scientific Computing. 3 hours. Numerical computation, graphics and mathematical software. Prerequisite(s): consent of department.

6260. Advanced Pattern Recognition and Image Processing. 3 hours. Research and study of specific problems and advanced topics, including the principles and pragmatics of pattern recognition, digital image processing and analysis, and computer vision. Prerequisite(s): consent of department.

6280. Advanced Artificial Intelligence. 3 hours. Current research issues and advanced topics involving both the principles and pragmatics within the area of artificial intelligence. Topics include, but are not limited to, knowledge representation, intelligent tutoring systems and semantic representation in natural language processing. Prerequisite(s): CSCE 5210.

6290. Advanced Man/Machine Intelligence. 3 hours. Robotics-based computer hardware and software; intelligent systems in automation; computer interface and control; computer vision in recognition inspection and 3-D interpretation; robot programming languages, algorithms and computational architectures; expert systems in design, diagnosis and planning; simulation languages and methods; and geometric modeling and graphic animation. Prerequisite(s): consent of department.

6350. Advanced Database Design. 3 hours. Database theory and application. Data models, distributed databases, spatial databases, statistical databases, database machines, knowledge bases, database design theory and self-documenting databases. Prerequisite(s): consent of department.

6420. Advanced Software Engineering. 3 hours. Research and study of specific problems in the field of software engineering. Software development methodology, verification and reliability; software quality assurance and productivity; software engineering economics; models and metrics for software management an engineering; human performance engineering; and software configuration management and control. Prerequisite(s): CSCE 5420 or consent of department.

6450. Advanced Programming Languages. 3 hours. Current research issues in programming languages. Translation of programming languages, formal semantics and program verification, foundations of structured programming, abstraction, declarative systems and special-purpose languages. Prerequisite(s): consent of department.

6480. Computability. 3 hours. Formal languages, grammars and automata, and their relationship to one another. Operations on languages. Unsolvable problems concerning languages. Prerequisite(s): CSCE 5400 and consent of department.

6581. Advanced Computer Networks. 3 hours. Selected topics in computer networks. Study of current high-speed networks technology; design implementation and analysis of communication protocols; TCP/IP, routing protocols, quality of service and network security. Prerequisite(s): CSCE 5580 or consent of department. May be repeated as topics vary.

6590. Advanced Topics in Wireless Communications and Networks. 3 hours. Research issues in the design of next generation wireless networks: cellular systems, medium access techniques, signaling, mobility management, control and management for mobile networks, wireless data networks,

Internet mobility, quality-of-service for multimedia applications, caching for wireless web access, and ad hoc networks. May be repeated for credit. Prerequisite(s): CSCE 5510 or CSCE 5580.

6610. Advanced Computer Architecture. 3 hours. Computer design problems, control structures and microprogramming, microprocessors, large-scale architectures, multiprocessor systems and interconnection networks, fault-tolerance, language-based architectures, special purpose and application-based systems and performance of systems. Prerequisite(s): CSCE 5610 or consent of department.

6620. Advanced Real-Time Operating Systems. 3 hours. Seminar course intended to further the knowledge of operating systems design and development. Focuses on distributed and real-time systems, with scheduling, time, and security as the mainstays. This is an advanced graduate level course that covers in detail many advanced topics in operating system design and implementation. It starts with topics such as operating systems structuring, multi-threading and synchronization and then moves on to systems issues in parallel and distributed computing systems. Prerequisite(s): CSCE 5620.

6640. Advanced Operating Systems. 3 hours. Current research issues and advanced topics involving both the principles and pragmatics of operating systems specifications, design and implementation. Prerequisite(s): CSCE 5640 or consent of department.

6650. Advanced Compiler Techniques. 3 hours. Current research issues and advanced topics involving both the principles and pragmatics of compiler systems specification, design and implementation. Prerequisite(s): CSCE 5650.

6651. Advanced VLSI Systems. 3 hours. Design and implementation of VLSI systems. Properties of MOS devices, implementation of basic functions, design of memory and processor circuits, languages for circuit design, placement and routing algorithms, and area-time complexity. Prerequisite(s): CSCE 5610 or consent of department.

6680. Advanced Distributed Computing. 3 hours. Selected topics in distributed systems and computer networks. Design of local area networks and multiple network systems; databases, programming languages and operating systems for distributed systems. Prerequisite(s): CSCE 5580 or consent of department.

6900. Special Problems. 1–3 hours. Independent study and research of a specific problem in a field of computer science and engineering. A report defining the problem and developing a solution is required. Problem chosen by the student with the approval of the supervising professor. Prerequisite(s): PhD status. May be repeated for credit with consent of department.

6933. Advanced Topics in Computer Science and Engineering. 2–3 hours. Advanced topics and current research issues in computer science and engineering. Prerequisite(s): consent of department.

6940. Individual Research. 1–6 hours. To be scheduled by the doctoral candidate engaged in research. May be repeated for credit.

6950. Doctoral Dissertation. 3, 6 and 9 hours. To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

Counseling

see Counseling, Development and Higher Education
see Psychology

Counseling, Development and Higher Education

Counseling, COUN

5000. Filial Therapy. 3 hours. Training parents to be therapeutic agents in their children's lives through the utilization of play therapy skills in regularly scheduled parent-child structured play sessions in their own homes. How to train parents in the overall principles and methodology of child-centered play therapy is addressed. Prerequisite(s): COUN 5700 or consent of instructor.

5200. Counseling Adolescents. 3 hours. Counseling adolescents requires unique knowledge and skill. Course prepares counselors to work with young people ages 12–21. Focus on the nature and needs of adolescence along with effective strategies in counseling are explored. Prerequisite(s): COUN 5680 and 5710, or consent of department.

5300. Counseling in the Community Agency. 3 hours. Didactic and experiential training to prepare the community-oriented counselor for work with service, welfare, health and charitable organizations and agencies that require unique counseling expertise. Prerequisite(s): COUN 5680 and 5710, or consent of department.

5400. Planning and Organizing Comprehensive Career Programs. 3 hours. A study of the purposes and functions of a comprehensive career development program; components of a comprehensive career program; techniques for providing comprehensive career programs to junior high, middle school, secondary and adult students.

5410. History and Current Trends in Comprehensive Career Counseling Programs. 3 hours. This course will provide an overview of the history of career counseling. Special attention will be focused upon current trends in the field of comprehensive career counseling. Prerequisite(s): COUN 5680 and 5710.

5420. Vocational Student Identification, Placement and Follow-up. 3 hours. A focus on the process of identification and assessment of learner's interests and aptitudes; various instruments, methods and techniques used in assessment are examined. Particular emphasis is given to special needs learners, including at-risk youth and other targeting populations.

5470. Career Development and Information Resources. 3 hours. Survey of career development and counseling with emphasis on the occupational, career and educational information service.

5480. Biopsychosocial Assessment and Wellness in Counseling. 3 hours. Principles and models of biopsychosocial assessment, case conceptualization and concepts of normalcy leading to an appropriate framework for counseling treatment plans or referral within a managed care framework. DSM-IV diagnosis, disorder prevention and promotion of optimal mental health are studied.

5530. Animal-Assisted Therapy. 3 hours. Animal-assisted therapy is the incorporation of qualified animals into a therapeutic environment. Explores techniques to facilitate animal-assisted therapeutic interventions in a variety of settings, including schools, counseling agencies, hospitals, nursing homes, hospices, prisons and facilities for individuals with developmental disabilities. A variety of animals can be suitable for therapy programs. The student need not have an animal or pet to take the course. Prerequisite(s): consent of instructor.

5540. Women's Emotional Health. 3 hours. Examination of counseling intervention techniques that are effective with women who have emotional, physical or spiritual health concerns. Such concerns may include, but are not limited to, victims of domestic violence or rape; survivors of childhood abuse; and sufferers of eating disorders, body-image dissatisfaction, low self-esteem, cancer, premenstrual syndrome and menopause. Prerequisite(s): consent of instructor.

5550. Introduction to Biofeedback in Counseling. 3 hours. Introduction to the use of biofeedback technology for the control of psychophysiological functions. The course will cover basic principles of psychophysiological self-regulation and mind-body interaction, basic biofeedback systems and instrumentation, treatment applications, professional conduct and personal experience using biofeedback. Prerequisite(s): COUN 5680 and 5710, or consent of instructor.

5560. Practicum in Biofeedback. 3 hours. Experiential training and practice utilizing biofeedback interventions and instrumentation in counseling. The course will require personal experience in using therapeutic biofeedback methods for self and others. Prerequisite(s): COUN 5550 or consent of instructor.

5561. Advanced Practicum in Biofeedback. 3 hours. Experiential training and practice utilizing biofeedback and neurofeedback interventions and instrumentation in counseling settings. The course will require personal experience in using therapeutic biofeedback and neurofeedback methods for self and others. Prerequisite(s): COUN 5550, 5560 or consent of instructor. Offered once per year.

5570. Teachers as Human Relations Facilitators. 3 hours. Emphasis on methodological approaches and activities designed to develop the ability to facilitate interpersonal relations in the classroom.

5580. Parent and Family Counseling. 3 hours. The application of family systems theory to the study of family dynamics, family development and the resolution of family conflicts. Prerequisite(s): COUN 5680 and 5710, or consent of department.

5590. Couple Counseling. 3 hours. The application of relationship counseling theory to the study of individual development, interpersonal relationships, marital systems and conflict resolution. Prerequisite(s): COUN 5680 and 5710, or consent of department.

5600. Counseling in Secondary Schools. 3 hours. Principles and practices of counseling in the secondary school related to the curriculum, counseling services and the counseling program. Prerequisite(s): COUN 5680 and 5710, or consent of department.

5610. Drug and Addiction Education for Counselors. 3 hours. Principles and practices of drug and addiction education and abuse prevention with special application to the functions of counselors. Prerequisite(s): COUN 5680 and 5710.

5620. Dreamwork in Counseling. 3 hours. Theory, research and experiential training and practice in the use of dreamwork as an adjunct to counseling with adolescents and adults. Prerequisite(s): COUN 5680 and 5710.

5630. Transpersonal Perspective in Counseling. 3 hours. Theory, major figures and research in the field of transpersonal psychology as it pertains to counseling. The transpersonal perspective is based on the assumption that humans have the potential to develop beyond the "mere" healthy ego into stages often conceptualized as spiritual. Intuitive, paranormal and mystical experiences along with the expansion of identity beyond the self are examined. Prerequisite(s): COUN 5680 and 5710.

5640. Group Play Therapy. 3 hours. Philosophy and rationale for group work with children and preadolescents. Focuses on the goals of group play/activity therapy, the role of the play therapist, screening and selection of group members, the use of expressive arts, play, activities at various developmental stages, and planning and structuring sessions. Prerequisite(s): COUN 5700.

5660. Advanced Counseling Skills. 3 hours. A competency-based course with experiential emphasis. The student is required to demonstrate proficiency in counseling concepts and techniques before proceeding to COUN 5690. Prerequisite(s): COUN 5480, 5680 and 5710 and 12 additional hours in counseling, or consent of department.

5670. Developmental Processes and Strategies. 3 hours. Principles and practices of human development as they relate to counseling processes and strategies. Opportunity for practical application of strategies is provided.

5680. Basic Counseling Skills. 3 hours. A study of selected basic techniques of counseling and of the application of ethical standards in counseling. Course should be taken concurrently with COUN 5710.

5690. Practicum in Counseling. 3 hours. Provides actual counseling experience with a variety of clients and problems. Prerequisite(s): all required degree courses in counselor education except COUN 5720 and 5721.

5700. Introduction to Play Therapy. 3 hours. Enhancing the counseling relationship with children by utilizing play media to facilitate expression, self-understanding, and personal growth and development. Observation of and supervised experience in play therapy with children are an integral part of the course. Prerequisite(s): DFEC 5123, COUN 5680 and 5710, or consent of instructor.

5710. Counseling Theories. 3 hours. Required upon first resident registration in program for master's degree. The course focuses on professional orientation, selected theories of counseling as they apply to normal and abnormal behavior and self-awareness through individual and group counseling. Degree plans are developed. Course should be taken concurrently with COUN 5680.

5720. Internship in Counseling I. 3 hours. Supervised experience in counseling in schools, colleges or agencies. Prerequisite(s): COUN 5690.

5721. Internship in Counseling II. 3 hours. Supervised experience in counseling in schools, colleges or agencies. Prerequisite(s): COUN 5720.

5730. Appraisal in Adult Counseling. 3 hours. Study of appraisal concepts and various instruments, methods and techniques that may be used to assess the strengths, limitations and behavioral patterns of individual clients. Prerequisite(s): COUN 5680 and 5710 and EDER 5210, or consent of department.

5740. Group Counseling Theories and Procedures. 3 hours. Group dynamics and major approaches to group counseling with emphasis on how to start a group counseling program, how to counsel effectively with groups and how to evaluate results. Development of skills of group membership, leadership and working with groups are stressed. Prerequisite(s): COUN 5680 and 5710, or consent of department.

5750. College Student Development Theory. 3 hours. A study of student development theory as it relates to students in higher education and student affairs practice. Prerequisite(s): COUN 5680 or consent of department.

5760. Appraisal in Child and Adolescent Counseling. 3 hours. Study of appraisal concepts and various instruments, procedures, methods and techniques used to assess learning and behavioral patterns of children. Prerequisite(s): COUN 5680 and 5710 and EDER 5210, or consent of department.

5770. Counseling in the Elementary School. 3 hours. Basic orientation to the role of elementary school counselor. Focus is on plans for achieving counseling, consulting and coordinating objectives with emphasis on principles as well as methods. Prerequisite(s): COUN 5680 and 5710, or consent of department.

5780. The Student in Higher Education. 3 hours. A focus on the nature and needs of the college student including older adolescent, young adults and returning adults. Reviews of demographic data about diversity of college populations, the changing relationship of students to colleges, the nature of student communities and the diverse patterns of structure and function by which colleges individualize education and provide for student affairs practice. Prerequisite(s): COUN 5680 or consent of department.

5790. Counseling Culturally Diverse Clients. 3 hours. Development of counseling skills and strategies based upon the special needs and characteristics of culturally and ethnically diverse clients. Prerequisite(s): COUN 5680 and 5710, or consent of department.

5795. Race and Ethnicity in Education. 3 hours. Examination of the basic constructs of race and ethnicity and analysis of how these constructs impact social, cultural, historical and educational environments.

5800. Studies in Education. 1–3 hours. Organized classes specifically designed to accommodate the needs of students and the demands of program development that are not met by the regular offerings. Short courses and workshops that concern themselves with specified topics, repeated only upon demand. May be repeated for credit.

5900-5910. Special Problems. 1–3 hours each. Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor and department chair.

5930. Research Problems in Lieu of Thesis. 3 hours. Research dealing with significant problems in the field of counseling.

6021. Advanced Practicum in Counseling I. 3 hours. Supervised individual and family counseling with a wide range of clients and problems. Focus is on consistent implementation of a personal counseling style. Prerequisite(s): COUN 5690, admission to doctoral program in counseling and concurrent enrollment in COUN 6651, or consent of department.

6022. Advanced Practicum in Counseling II. 3 hours. Supervised counseling with a wide range of clients. Focus is on implementation of an internally consistent, personal theory of counseling. Prerequisite(s): COUN 6021 and concurrent enrollment in COUN 6652.

6031-6032. Internship. 3 hours each. Supervised professional activities in counseling. Required of all doctoral candidates. Prerequisite(s): COUN 6022 and 6652; COUN 6031 is a prerequisite to 6032.

6060. Personal Growth Laboratory. 3 hours. A small group counseling experience designed to facilitate members' realistic assessment of strengths and weaknesses in the emotional, intellectual and physical dimensions. Goal setting and creation of workable courses of action are encouraged. Prerequisite(s): COUN 5740 and consent of instructor.

6070. Practicum in Group Counseling. 3 hours. Intensive exploration of the dynamics of interpersonal relationships through supervised experience as the facilitator of counseling groups. Students will examine in depth their approach to group leadership in weekly seminar sessions. Prerequisite(s): COUN 5690 and 5740, and consent of instructor.

6080. Seminar in Group Procedures and Group Counseling. 3 hours. A critical analysis of group counseling and various group approaches, such as interpersonal process and other modalities applicable to working with groups. The seminar group explores the underlying theory of various approaches, participates as a group in the experience and then critiques the experience. Prerequisite(s): COUN 5740 and consent of instructor.

6090. Counselor Supervision. 3 hours. Critique of the literature in counselor supervision with discussion and didactic emphasis on the role of the counselor supervisor in the dynamics of supervisory relationships. Laboratory supervising a counseling practicum. Prerequisite(s): COUN 5690, 6021 and 6651; taken concurrently with COUN 6022 and 6652.

6110. Seminar in Career Development. 3 hours. Analysis of the major theories of career development; relationship to major counseling movements, the psychology of career development and human resource development in business and industry are emphasized. Prerequisite(s): COUN 5470 or consent of instructor.

6130. Research in Counseling. 3 hours. Survey and analysis of existing research and research methodology in counseling. A review of the literature in selected areas is required. Major research reports are evaluated for methodological strengths and weaknesses. Prerequisite(s): EDER 6010 and 6020 (must be taken prior to or concurrently with COUN 6130) and admission to doctoral program in counseling, or consent of department.

6630. Advanced Play Therapy. 3 hours. Seminar approach to an analysis of the rationale for play therapy in counseling. In-depth study of basic theories of play therapy and the variables that affect the helping relationship. Focus also is upon the counselor's own unique contribution to the relationship and the emotional needs of children. Prerequisite(s): COUN 5700 or consent of instructor.

6651. Advanced Theories of Counseling. 3 hours. Study in depth of the major theories of counseling, including the philosophical and psychological assumptions that underlie them. Prerequisite(s): admission to doctoral program in counseling or consent of instructor and concurrent enrollment in COUN 6021 or consent of department; COUN 6651 is a prerequisite of 6652.

6652. Teaching Counselor Education. 3 hours. Overview of the history and development of counselor education with an examination of the theoretical orientation and practical skills necessary to function effectively as a counselor educator. Prerequisite(s): admission to doctoral program in counseling and COUN 6651.

6680. Ethical, Legal and Professional Issues in Counseling. 3 hours. Focus on theoretical and research literature concerned with ethical, legal and professional issues relating to counseling, counselor education and counselor supervision. Prerequisite(s): COUN 6651-6652.

6900-6910. Special Problems. 1-3 hours each. Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs. Conferences with professors in the fields also are included. Problems must be approved in advance by instructor and department chair.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

Development, Family Studies and Early Childhood Education, DFEC

5013. Research Strategies and Techniques in Development, Family Studies and Early Childhood Education. 3 hours. Research strategies and techniques and their application to the research process in development, family studies and early childhood education.

5030. Practicum, Field Experience or Internship. 3, 6 or 9 hours each. (0;0;3,6,9) Supervised professional activities in development, family studies and early childhood education. Registration is on an individual basis and student must have prior consent of professor.

5113. Developmental and Family Theory. 3 hours. Survey of classic and contemporary theories in the fields of human development and family studies, including the role of theory in empirical investigation, conceptual frameworks, strategies of theory building, and an examination of theoretical perspectives useful in the study of behavior.

5123. Human Development Across the Life Span. 3 hours. The processes and stages that individuals undergo as they progress from birth through old age and death are studied from a human ecological perspective. Developmental tasks and concepts are explored.

5133. Advanced Studies in Child Development. 3 hours. Findings and implications of current theory and research in emotional, social, cognitive, language, physical and perceptual development from birth through older childhood.

5143. Cognitive and Language Development. 3 hours. Comprehensive development sequence of cognitive development and language acquisition from birth through adulthood, focusing on theories and research related to cognitive, perceptual and language development, as well as relationships between language and thought.

5153. Social-Emotional Development. 3 hours. Comprehensive developmental sequence of social and emotional development from birth through adulthood. Course content focuses on both theory and research pertaining to the development of emotions and temperament as well as intra- and interpersonal issues of social development.

5163. Diversity in Individuals and Families. 3 hours. Readings considering the mutual effects of children and families and their diverse contexts. A wide variety of individual strengths and needs are identified and examined. Diversity issues discussed include cultural, ethnic, gender, sexuality, language and developmental differences. Examination of personal and societal attitudes is emphasized.

5313. Parent-Child Interaction. 3 hours. Study of parent development and relationships with children throughout the family life cycle. Focus on empirical studies related to dynamics of parent-child interaction. Impact of parenting upon development and socialization of children.

5323. Parent Education. 3 hours. Empirical knowledge and skills required for education and leadership of parents. Overview of major theoretical and programmatic approaches to parent education. Application of models and techniques.

5413. Family Relationships. 3 hours. An analysis of the influences that affect modern family life; consideration of variant family forms.

5423. Family Problems in Urban Living. 3 hours. An examination of the implications of urban problems and resources for personal and family life.

5433. Partnerships: Family, School and Community. 3 hours. The reciprocal responsibilities of the family, school and community for a child's welfare and education are stressed. Strategies to improve communication and collaboration are emphasized with a focus on family types, cultures, economic conditions, school systems, community services, political forces, advocacy groups and other factors that impact young children and their families.

5513. Advanced Studies in Early Childhood Education. 3 hours. Advanced survey of theory/philosophy and research related to educating children. Integrative and comprehensive assessment of both classic and recent contributions in the field of early childhood education. Course requires involvement in early childhood setting.

5523. Early Childhood Education Colloquium. 3 hours. Rotating graduate seminar featuring workshops and/or lectureships led by national experts in the field of early childhood education.

5613. Advanced Curriculum for Early Childhood. 3 hours. Study of the principles of curriculum construction and innovative instructional practices for early childhood. Explores research related to organization strategies including planning, arrangement, and selection of materials and evaluation.

5623. Environments and Programs for Young Children. 3 hours. Recommended for individuals entering the early childhood profession. Emphasizes the application of early childhood theory and developmentally appropriate practices. Includes curriculum planning, classroom management, and techniques and strategies for effective learning environments.

5633. Assessment in Early Childhood Education. 3 hours. Examines the role of assessment in the process of program development, instruction and individual differences. Attention is given to observational strategies, record keeping, analysis of data, instructional planning and program evaluation.

5643. Leadership and Supervision of Programs. 3 hours. Issues and problems in administration of programs for children, youth and families. Includes administrative leadership of programs and staff, effective staff development and supervision.

5653. Making the Literacy Connection: Language to Reading. 3 hours. The study of the development of literacy in young children through oral language, listening comprehension, alphabetic knowledge, print awareness and reading. Addresses young children's communication, language diversity, age-appropriate characteristics and appropriate instructional techniques to support literacy and reading. Includes techniques for assessment and evaluation of early language development.

5800. Special Topics in Development, Family Studies and Early Childhood Education. 1–3 hours. Organized classes designed to accommodate the needs of students and demands of program development not met by regular offerings. Short courses and workshops on specific topics are offered on a limited basis, to be repeated only upon demand. May be repeated for credit.

5900-5910. Special Problems. 1–3 hours each. Open to graduate students capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor.

5920. Problems in Lieu of Thesis. 1 hour. Professional paper and oral presentation/defense of that paper under the mentorship of a development and family studies graduate faculty member. Pass/no pass only.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

6030. Practicum, Field Problem or Internship. 3 hours. Mentored professional activities in early childhood education. Registration is based on approval from student's committee. May be taken once for credit.

6511. Continuing Integrative Seminar. 1 hour. Integration of knowledge gained from courses, seminars and community experiences through interaction with practicing professionals to explore the political, economic and social forces that shape and influence early childhood education.

6523. History, Philosophy and Ethics of Early Childhood Education. 3 hours. Investigates the origins of early childhood education considering historical, philosophical and ethical issues. Contributions of leaders in early childhood are evaluated through social and educational contexts.

6533. Current Readings and Research in Early Childhood Education. 3 hours. Introduction to current research as well as historical and contemporary readings in early childhood education. Contributes to students' roles as professionals in the field. Assigned readings are critically examined; students lead discussions on self-directed readings. Students are required to register for this course in each of their first three terms/semesters of course work. 3 hours required; limit of 4 hours may be applied to the degree plan.

6543. Critical Issues in Early Childhood Contemporary Society. 3 hours. Critical issues and their implications in improving early childhood education and influencing public policy. Issues are explored across change areas (environment, children and families, context, services and agencies) and topic (risk factors, violence, schooling and education, equity, culture and gender).

6613. Leadership, Professionalism and Social Change in Early Childhood Education. 3 hours. This course assists early childhood professionals in developing educational leadership, vision and the ability to promote social change through understanding the roles of the individual educator, organizations and the community.

6623. Advocacy in Early Childhood Education. 3 hours. Critical examination of the rationale, evidence and program and policy issues involved in family-oriented early childhood initiatives and service systems. Readings and discussions focus on issues such as the characteristics, strengths and weaknesses of emerging policies and programs to strengthen and support families with young children and change and reform efforts in various agencies.

6800. Special Topics in Development, Family Studies and Early Childhood Education. 3 hours. Organized classes designed to accommodate the needs of students and demands of program development not met by regular offerings. Short courses and workshops on specific topics are offered on a limited basis, to be repeated upon demand. May be repeated for credit.

6900-6910. Special Problems. 1–3 hours each. Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs. Conferences with professors in the fields also are included.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

Early Childhood Education Courses Offered at Texas Woman's University

Students wishing to enroll in the following TWU courses will do so through a cross-registration mechanism administered by the School of Graduate Studies at UNT.

EDUC 5613. Language and Literacy in Early Childhood. In-depth study of language and literacy for ages birth through eight, including strategies for promoting early literacy development at home and at school. Prerequisite(s): EDUC 3663 and 3623. Observation/Field Experience: 15 clock hours. 3 lecture hours a week.

EDUC 5623. Curriculum Development in Early Childhood. In-depth study of basic principles underlying curriculum construction and innovative instructional practices for ages birth to eight; emphasis on research related to organization and sequential arrangement of materials. Prerequisite(s): EDUC 3663 and 3623. Observation/Field Experience: 15 clock hours. 3 lecture hours a week.

EDUC 5643. Child Growth and Human Development in Early Childhood. Motor, social, emotional and cognitive aspects of the development of children birth through age 8. Observation/Field Experience: 15 clock hours. 3 lecture hours a week.

EDUC 5653. Observation and Assessment in Early Childhood. Designed to provide a comprehensive knowledge base concerning assessment of young children. Areas of emphasis include development of skills in selection, use and interpretation of developmentally appropriate formal, informal and holistic instruments and procedures; measurement terms and principles; procedures and legal requirements for record keeping; use of technology in assessment; and managing an assessment team. Prerequisite(s): EDUC 3663 and 3623. Observation/Field Experience: 15 clock hours. 3 lecture hours a week.

EDUC 5663. Reflections and Perspectives in Early Childhood. An analysis of contemporary issues and problems in early childhood including investigations of current research, as well as analysis of ethical, political and advocacy issues. Prerequisite(s): EDUC 3663 and 3623. 3 lecture hours a week.

EDUC 5673. Home/School/Community Partnerships. Investigate techniques and strategies for developing and implementing effective home, school, community involvement programs in early childhood settings. Observation/Field Experience: 15 clock hours. Prerequisite(s): EDUC 3663 and 3623. 3 lecture hours a week.

EDUC 5683. Issues in Early Childhood Research and Evaluation. A practical approach to research and evaluation theory and practice, which includes evaluating research articles and evaluation reports, identifying problems or topics for investigation, and synthesizing literature reviews. Quantitative and qualitative methodologies will be compared. Prerequisite(s): EDUC 3663 and 3623. 3 lecture hours a week.

EDUC 5693. Math/Science/Technology in Early Childhood. Development of mathematical and scientific concepts in children birth through age 8, incorporating the latest

technology. Prerequisite(s): EDUC 3663 and 3623. Observation/Field Experience: 15 clock hours. 3 lecture hours a week.

EDUC 6623. Language in Early Childhood Classrooms. Analysis of psycholinguistic research in preschool language development, emphasizing pragmatics; determination of patterns of language use in early childhood classes; interpretation of ethnographic studies of language abilities of school-aged children from varied socioeconomic and ethnic groups from a sociolinguistic perspective; comparison of home and school language display; methods for continuing language growth in the classroom based on the demonstrated processes of language development. 3 lecture hours a week.

EDUC 6653. Child Development of the Kindergarten–Primary Child: Advanced. Analysis of historical, advanced inferential and descriptive research. 3 lecture and 2 laboratory hours a week. Prerequisite(s): 3 hours of research/statistics or permission of instructor.

EDUC 6663. Foundations of Early Childhood Education. Historical, philosophical, sociological, physical and psychological bases for understanding and implementing programs of early childhood education. Prerequisite(s): 3 to 6 hours of child development or permission of instructor. 3 lecture hours a week.

Higher Education, EDHE

5100. Effective College Teaching and Learning. 3 hours. Application of current research, theory and practice to the design, development and management of learning and instruction in colleges and universities. Development of skills and experience using research and practice to design, manage and evaluate learning and instruction in higher education.

5110. Foundations of Student Development Administration. 3 hours. Principles and techniques of administration applied to the student development subsystem of higher education institutions. Applications to both senior and community college institutions.

5120. Student Development Programming Administration. 3 hours. Principles and techniques of creating, analyzing and administering student development programming to meet the needs of heterogeneous college student groups in the areas of academic, social, community and personal development in higher education. Applications to both senior and community college institutions. Prerequisite(s): EDHE 5110.

5250. Programming for Conferences, Seminars, Workshops. 3 hours. Examination of theory and practice for the development and operation of brief learning activities for education, training and development.

5710. Trends and Issues in Adult/Continuing Education. 3 hours. An introduction to adult/continuing education that includes a review and analysis of its historical development, social context, current practice and problems, and research.

5900. Special Problems. 1–3 hours. Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor. Open only to resident students.

6030. Practicum, Field Problem or Internship. 3–6 hours. Supervised professional activities in college teaching research or administration. Registration is on an individual basis.

6050. Teaching and Learning in Higher Education. 3 hours. A study of major theories of teaching and learning with applications to postsecondary instruction. Includes an examination of the processes of identifying instructional objectives, assessment, selecting instructional methods, and formative and summative evaluation of student and teacher performance.

6060. Introduction to the History and Philosophy of the Community College. 3 hours. Exploration of the development and the evolution of the community college as an innovation in U.S. higher education. Factors that influenced its creation and development, the historical and philosophical roots and the mission and function of community colleges. This course should be the first course taken in the sequence when beginning the community college cognate.

6065. Finance and Administration of the Community College. 3 hours. Examination of the context for and operation of community college administration with emphasis on governance and finance at the local and state levels.

6070. Teaching and Learning in the Community College. 3 hours. A review and application of knowledge and competencies to develop, manage and evaluate instruction in the context of the community college. Includes an examination of learning theory, learners, instructional theory, assessment and the community college as a learning college.

6075. Economic Development and Higher Education. 3 hours. Exploration of the roles, functions and relationships between economic development in communities and higher education institutions. Examines basic aspects of human capital theory along with local, state and federal policy for human resource development and training and the relation of these to economic development.

6080. Leadership in the Community College. 3 hours. Examination of the theory and practice of leadership as these apply to the comprehensive community college. Topics include motivational theory, communications, group decision making, problem solving, conflict resolution, organizational theory, and career planning and development.

6085. Contemporary Issues in the Community College. 3 hours. Exploration of key contemporary issues in the community college as these relate to the areas of developmental education, leadership and governance, state support, federal student aid, federal policies affecting higher education and community colleges, evaluation and accountability, professional development, leadership development, diversity and access. This course should be the last course taken in the sequence when finishing the community college cognate.

6120. Seminar in Adult and Continuing Education. 3 hours. A review and critique of research in adult and continuing education. Topics are selected by faculty and vary each term/semester.

6500. Essentials of Academic Publishing in Higher Education. 3 hours. Deals extensively and intensively with major issues and problems affecting academic publishing. Topics treated include copyrights, book reviews, journal articles, policies and practices of professional journals, researching journals, publishing contacts and contracts, and book publishing.

6510. History of Higher Education in the U.S. 3 hours. Study of the development of higher education in the United States, including the forces and events that have shaped institutions and institutional culture and practice. Identification of the significant events and actions that have shaped the evolution of higher education institutions and analysis of the implications of these for practice and for the future of higher education.

6520. Research on Students in Higher Education. 3 hours. This course links theories about college student development and research methodology on the study of college student outcomes. Specifically addressed are the conditions and kinds of effects that college attendance has on students. The course considers topics of interest to both practitioners and researchers.

6530. Research on Higher Education. 3 hours. A critical review and analysis of the research literature on higher education and of designs used to conduct research in the field of higher education and on higher education in general.

6540. The Dissertation in Higher Education. 3 hours. Designed to familiarize doctoral students with the various genres of acceptable qualitative and quantitative research in higher education. Emphasis is on research needed in higher education, the psychology and economics of dissertation research and the importance of publishing completed research. Differences between EdD and PhD dissertations are considered.

6550. Policy Studies in Higher Education. 3 hours. Studies in the development, implementation and enforcement of policies by institutions of higher education, state higher education coordinating and governing boards and the federal government. Measurements of the impacts of policies on educational outcomes and institutional management also are examined.

6560. Comparative International Higher Education Systems. 3 hours. Survey of the history and organizational concepts, approaches and educational philosophies utilized by selected nations around the world in the development of higher education systems. Attention also is given to the professional literature and research methods used in comparative higher education studies.

6570. The Professoriate in Higher Education. 3 hours. Investigates the American professoriate and the relative importance of teaching, research and service. Includes in-depth investigations of the conditions of the professoriate within the range of Carnegie institutional classifications.

6640. The Adult Learner and Adult Learning. 3 hours. A review and analysis with applications to practice of theory and research on adult learners and adult learning.

6660. Seminar in College Student Personnel Work. 3 hours. Intensive study on an individual and group basis of special issues and problems in the organization, practices and administration of college student personnel services.

6700. Role of Higher Education in a Democracy. 3 hours. An examination of the roles, goals, purposes and problems of a diverse pluralistic system of higher education in the unique context of American democracy.

6710. General Administration in Higher Education. 3 hours. An examination of the theoretical principles of organizational behavior, leadership and institutional culture applied to a functional examination of administrative roles in community and senior colleges.

6720. Academic Administration in Higher Education. 3 hours. The functions of administrators of academic programs in institutions of higher education. Emphasis given to philosophy, objectives and curriculum development in academic programs. Both junior and senior college problems are considered.

6730. Organization and Administration of Student Development Services. 3 hours. Principles and techniques of organization and administration applied to the student development subsystem of higher education institutions. Designed to provide knowledge and proficiency in theories of organization and administration applied to the institutional level of the chief student development administrator, the effects of organizations on individual and group behavior, and specific administrative skills applied to the student development subsystem and to the programming needs of the institution. Applications to chief student development officers at both senior and community college institutions.

6740. Planning and Analytical Systems in Higher Education. 3 hours. Systems theory; goals and objectives; management information systems; simulation models and planning, programming, budgeting systems (PPBS); evaluation of educational outcomes; and the institutional research function in higher education.

6750. Human Resource Development in Higher Education. 3 hours. Examination of research and practice, including principles and techniques for the development, management and evaluation of faculty and staff, in colleges and universities.

6760. Higher Education Finance. 3 hours. Examines the sources of revenues, types of expenditures, budgeting and accounting practices, tuition and financial aid policies, cost containment strategies, and the effects of the economy and state and federal funding on the financing of both private and public institutions of higher education.

6780. Educational Resource Development in Higher Education. 3 hours. Designed to provide the administrator in higher education with knowledge and skills in educational resource development. Specific areas to be studied are identification and translation of institutional objectives into support programs and goals, program organization and management, and traditional and non-traditional sources of educational income.

6790. Legal Aspects of Higher Education. 3 hours. Legal aspects and issues affecting institutions of higher learning and their administrations, faculties and students. Analyses of decisions rendered by the federal and state courts concerning procedural and substantive due process, civil rights, and the operation and function of higher education. (Same as BLAW 6790.)

6850. Studies in Higher/Adult Education. 1–3 hours. Short courses and/or workshops organized on a limited-offering basis, to be repeated only upon demand. May be repeated for credit.

6900-6910. Special Problems. 1–3 hours each. Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs. Conferences with professors in the fields also are included.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

Criminal Justice

Criminal Justice, CJUS

5000. Criminal Justice Policy. 3 hours. Methods of policy formulation, implementation and analysis in the criminal justice setting. Selected topics developed for practical research and evaluation.

5050. Criminals and Substance Abuse. 3 hours. Investigation, analysis and discussion of the relationships between substance abuse and criminal and juvenile offenders.

5100. Information Warfare, Security and Risk Analysis. 3 hours. An in-depth examination of information warfare, the management of information security and the analysis of risk within organizational contexts.

5120. Cybercrime and Digital Forensics. 3 hours. An examination of crimes using computers and the Internet as their primary medium, with practical analyses of evidence of these crimes.

5130. Information Policy, Law and Justice. 3 hours. Critical consideration of some of the public policy, legal and societal justice implications of new information technology such as the Internet.

5200. Legal Aspects of the Criminal Justice System. 3 hours. An examination of the legal process and procedures of the criminal justice system, including investigation, arrest, prosecution and sentencing.

5250. Administrative Law and Justice. 3 hours. Discussion of the legal principles and doctrines applicable to the state and federal criminal justice agencies, including information policy, ethical and liability issues.

5270. Criminal Evidence. 3 hours. Examines the problems of proof in the criminal justice process, including the admission and exclusion of evidence, the examination of witnesses, substitutes for evidence and procedural considerations. Both the theory and application of the evidentiary principles will be explored.

5350. Seminar in Contemporary Policing. 3 hours. Survey of classical and recent literature in policing. Studies of the trends, issues and reform movements currently prominent in the field of policing.

5450. Punishment, Discipline and Social Policy. 3 hours. Theoretical and practical bases of correctional goals and strategies focusing on offenders, the justice system and the public. The impact of various policies on the justice process and society is stressed.

5460. Correctional Programs. 3 hours. Examines the content and purposes of educational, religious, cultural, psychiatric and treatment programming for adult and juvenile offenders in institutions and the community. Methods of handling special needs offenders receive attention, as does the efficacy of such programs in controlling recidivism.

5470. Seminar on Juvenile Delinquency. 3 hours. Problems of definition and measurement, etiological theories, processing of delinquents, and treatment and prevention. (Same as SOCI 5470.)

5500. Seminar in Criminal Justice Administration. 3 hours. Critical application of selected analytical tools in administering justice agencies; studies of the application of human and financial resources, productivity, measurement and enhancement, and organization design, culture and change in the context of criminal justice agencies.

5600. Advanced Criminological Theory. 3 hours. An examination of the major theoretical explanations of criminality, the distribution of crime, and the behavior of justice agencies. (Same as SOCI 5600.)

5620. Seminar in Victimology. 3 hours. The role of the victim in various types of crime, predators and treatment of trauma, and the treatment of victims by criminal justice agencies. Political impact of the victims' movement on the justice systems and the distribution of victims across demographic and behavioral groups. (Same as SOCI 5620.)

5700. Evaluation and Research Methodologies. 3 hours. Quantitative and qualitative methods of gathering and analyzing data on crime and the justice system, with special attention devoted to evaluation methods.

5750. Criminal Justice Statistics. 3 hours. Explores the theory, practice and application of statistical analysis to the field of criminology and criminal justice. The student learns how to conduct independent statistical testing, understand the applications of statistics to research methods and the use of statistics in criminal justice. Prepares the student to conduct independent statistical analysis for criminal justice agencies or research purposes and to be able to use computer programs in statistical analysis and research.

5800. Topics in Criminal Justice. 3 hours. Content varies as course covers specific issues of current interest and concern in criminal justice and criminology. May be repeated for credit as topics vary.

5850. Directed Studies. 3 hours. Individual research and writing on selected topics under faculty supervision.

5900. Special Problems. 1–6 hours. Prerequisite(s): consent of instructor.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. Prerequisite(s): CJUS 5750. May be repeated for credit.

Dance

see Dance and Theatre

Dance and Theatre

Dance, DANC

5110. Critical Analysis of Professional Literature. 3 hours. Analysis and philosophical criticism of the literature in the student's major area and other related fields. Extensive reading assignments and discussion of published and unpublished research.

5200. Improvisation as a Basis for Choreography. 3 hours. A non-technical course dealing with advanced improvisational problems relating to gesture, body exploration, spatial and rhythmic exploration, group interaction and communication of time, space and motion.

5210. Principles of Dance Theatre. 3 hours. (3;2) Theoretical and creative aspects of choreography. Concepts relating to the development of creativity and artistic integrity in dance. The dual emphasis concerns large-group works and experimental forms. Prerequisite(s): DANC 1400, 2400 or 3400. Lecture and movement 3 hours per week plus a minimum of 60 clock hours in a movement laboratory.

5250. Philosophy and Criticism of Dance. 3 hours. In-depth examination and critical analysis of philosophical approaches and resultant aesthetics of performance and choreography through observation of dance performances and study of aesthetic theories and criticism.

5300. Kinesiology and Biomechanics of Dance Injuries. 3 hours. Factors of stress, force, motion, equilibrium and leverage affecting incidence and cause of injuries noted in dancers. Prevention, immediate care and rehabilitation of common injuries seen in the studio. Prerequisite(s): concurrent enrollment in DANC 1400, 1410, 2400 or 2410. Lecture and movement 3 hours weekly plus a minimum of 60 clock hours in a movement laboratory.

5400. Survey of Performing Arts Management. 3 hours. A survey course designed to point out the needs, values and roles of the managerial position in a performing arts organization, with special reference to the administration of professional dance.

5800. Studies in Dance. 1–3 hours. Organized classes specifically designed to accommodate the needs of students and the demands of program development that are not met by regular offerings. Short courses and workshops on specific topics, on a limited-offering basis, to be repeated only upon demand. May be repeated for credit.

5900-5910. Special Problems. 1–3 hours each. Problems must be approved by department chair.

Theatre Arts, THEA

5000. Research Methods in Dance and Theatre. 3 hours. Historical, investigative and empirical methods of research for dance and theatre arts scholars or artists. Quantitative analysis. Survey of dramatic and critical literature. Required of all majors in theatre arts the first fall term/semester of their graduate enrollment.

5260. Asian Theatre. 3 hours. Plays, playwrights, actors and other theatre artists in relation to the cultures of Japan, China, Indonesia, Southeast Asia and India. Theatre architecture and the use of environmental spaces for theatrical performances. Emphasis on theory and criticism of dramatic art.

5300. World Theatre to 1750. 3 hours. Plays, playwrights, actors and other dramatic artists in relation to world cultures. Theatre architecture. Emphasis on the relationship between premodern theories and criticism, and the theories and criticism of the 20th century.

5310. World Theatre After 1750. 3 hours. Plays, playwrights, actors and other dramatic artists in relation to specific cultures. Theatre architecture. Emphasis on 20th-century theories and criticism as they developed from earlier historical periods.

5320. American Theatre. 3 hours. The history and technical development of the theatre in America.

5330. Play Analysis for Design and Production. 3 hours. (3;2) Independent planning and production of plays in various styles and modes. Special problems in directing. Prerequisite(s): 6 advanced undergraduate hours of directing or consent of the department.

5340. Contemporary Theatre Criticism. 3 hours. Experimental and new trends in playwriting, production and criticism.

5350. Theatre Management. 3 hours. Design, organization and administration of commercial, regional, community, educational and touring theatre programs or companies. Management of fine arts centers.

5360. Principles of Stage Design. 3 hours. (3;2) History and theory of stage design with emphasis on problems of period and style. Independent production assignments.

5370. Principles of Stage Lighting. 3 hours. (3;2) History and theory of lighting stage presentations with emphasis on problems of period and style. Independent production assignments.

5380. Principles of Stage and Film Performance. 3 hours. (3;2) History, theory and practice of acting for theatre, film and television. Emphasis on problems of period and style. Independent production assignments.

5390. Theatre for Children, Youth and Teachers. 3 hours. (3;2) Improvisation, play production, playwrighting and creative dramatics as tools for teaching a variety of subjects. Emphasis on preparing the classroom or laboratory performance.

5410. Principles of Theatrical Costume Design. 3 hours. (3;2) History, theory and practice of costume design for dance, drama and film. Selected problems in design concept and approach, including modern interpretive development, using written and artistic resources. Practical application with rendering and craft techniques developed.

5460. Studies in Playwriting. 3 hours. (3;2) Principles and practices governing the art of writing for dramatic presentations. The scriptwriting process from proposal to production. Study of historical and contemporary models. Marketing techniques. Prerequisite(s): consent of department. May be repeated twice for credit.

5500. Seminar in Dance and Theatre Arts. 3 hours. Rotating topics. Representative topics include dance and theatre arts criticism, playwriting for non-theatrical media, history of theatrical design and classroom performance for teachers. May be repeated for credit.

5750. Practicum in the Teaching of Theatre Arts. 3 hours. (3;2) Training in the teaching of dance and theatre arts. Under the supervision of a faculty member the student prepares and presents instructional units, conducts class and laboratory activities, practices interscholastic competition and handles administrative matters peculiar to theatre arts. No more than 3 hours may be applied to a master's degree. Duties performed for a teaching or technical fellowship or assistantship may not earn credit for, or be part of, this course.

5900-5910. Special Problems. 1–3 hours each. Problems must be approved by department chair.

5920-5930. Research Problems in Lieu of Thesis. 1–3 hours each.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

Decision Sciences

see Information Technology and Decision Sciences

Development, Family Studies and Early Childhood Education

see Counseling, Development and Higher Education

Economics

Economics, ECON

5000. Economic Concepts. 3 hours. Theory of the firm under different market structures; demand theory, the Keynesian model and the money system.

5020. Seminar on Economic Data Acquisition and Analysis. 3 hours. Collection and analysis of economic data. Application of statistical and economic analysis to wide array of data, including monetary, unemployment, GNP, industrial productivity and inflation. Prerequisite(s): ECON 3550 and 3560 or consent of department.

5030. Microeconomic Analysis. 3 hours. Theory of the firm relating to production and employment; consumer behavior and related concepts of microeconomic efficiency. Prerequisite(s): ECON 1100-1110 or 5000. Usually offered fall and spring terms/semesters and 5W1 (summer session).

5040. Macroeconomic Analysis. 3 hours. National income determination and measurement, macroeconomic stabilization policy and macroeconomic theory. Prerequisite(s): ECON 1100-1110 or 5000. Usually offered fall and spring terms/semesters and 5W2 (summer session).

5050. Seminar on Contemporary Economic Problems. 3 hours. Investigation, analysis and discussion of significant problems in contemporary economics. Prerequisite(s): consent of department. May be repeated for credit.

5070. Comparative Economic Systems. 3 hours. An examination of the theoretical foundations, structure and performance of various economies of the world. Theoretical coverage emphasizes decision making, price systems, planning, information and motivation, rather than an ideological approach. Topics of modern capitalism are covered, as well as the non-Western economies of the former Soviet Union, Eastern Europe and China. Individual readings and research required. Prerequisite(s): ECON 1100-1110 or consent of department. Students may not receive credit for both ECON 4100 and 5070. Usually offered spring term/semester.

5090. Seminar on the History of Economic Thought. 3 hours. The development of economic thought since the Middle Ages. Prerequisite(s): ECON 1100-1110 or consent of department. Students may not receive credit for both ECON 4510 and 5090. Usually offered spring term/semester.

5100. Seminar on Contemporary Economic Thought. 3 hours. The development of economic thought since 1900. Prerequisite(s): 6 semester hours of advanced economics.

5140. Managerial Economics. 3 hours. Integrates microeconomic theory with accounting, finance, marketing and production management. Incremental reasoning to decision making under uncertainty. Prerequisite(s): ECON 3550 or 5030. Students may not receive credit for both ECON 4140 and 5140. Usually offered spring term/semester.

5150. Public Economics. 3 hours. Analysis of theoretical foundations, structure and performance of public sector. Includes issues of public choice theory, market failures, taxing, spending, borrowing and subsidies. Individual readings and research required. Prerequisite(s): ECON 1100-1110 or consent of department. Students may not receive credit for both ECON 4150 and 5150. Usually offered fall and spring terms/semesters and 5W2 (summer session).

5160. Empirical Public Economics. 3 hours. Empirical and quantitative analysis of public sector economics. Emphasizes the application of theoretical models in economics to real-world resource allocation decisions, such as taxes and expenditures, at all levels of government using econometric estimation procedures. Prerequisite(s): ECON 5640 or equivalent and ECON 5340 or 5600.

5170. Seminar in the Economics of Taxation and Tax Policy. 3 hours. Topics in tax policy, such as comprehensive tax base, consumption taxes, VAT taxes, equity and efficiency issues, tax rules and how they influence investment and consumption decisions. Prerequisite(s): enrollment in MS accounting or consent of instructor. Usually offered spring term/semester and 5W2 (summer session).

5180. Economics of Health Care. 3 hours. Application of economic theory and analysis to the financing and delivery of medical care. Emphasis on the use of economic concepts to understand public policy issues in medical care. Students may not receive credit for both ECON 4180 and 5180. Usually offered fall term/semester.

5210. Seminar on Labor Area Economics. 3 hours. Individual research in contemporary labor force problems; national and regional labor markets; remedial and curative labor policies. Prerequisite(s): 6 hours of advanced economics or consent of department.

5250. Advanced Labor Seminar. 3 hours. Designed to meet the needs of students prepared to do advanced and specialized work in the field of contemporary labor problems, legislation and labor theory. Prerequisite(s): 6 hours of advanced economics and consent of department chair. Usually offered spring term/semester.

5270. Seminar in Labor and Industrial Relations Problems. 3 hours. Broad, interdisciplinary aspects of labor and industrial relations problems as currently emphasized by economic, social, political and business conditions. Wide variety of resource personnel from each of the academic disciplines, business, labor and government, and administrators who are experienced specialists in their areas.

5280. Research Seminar in Labor and Industrial Relations Problems. 3 hours. Research methodologies and problems in the areas of labor and industrial relations. Practical primary research is required of each student. Prerequisite(s): consent of department.

5330. Advanced Macroeconomic Theory. 3 hours. Rigorous theoretical treatment of mainstream theory and method. Theories of national income determination, rational expectations, fiscal and monetary policies, inflexible wages and prices, consumption, investment, the inflation-unemployment tradeoff and business cycles. Prerequisite(s): ECON 3560 or 5040, 4020 or consent of department. Usually offered fall term/semester.

5340. Advanced Microeconomic Theory. 3 hours. Microeconomic theory and its applications. Emphasizes the logical structure of microeconomics and the formal specification of microeconomic problems. Special topics may include intertemporal choice, uncertainty and risk analysis; industrial organization and antitrust policy; advanced managerial economics; cost-benefit analysis. Prerequisite(s): ECON 3550 or 5030 and 5600, or consent of department. Usually offered spring term/semester.

5400. Advanced Monetary Theory and Policy. 3 hours. Classical and contemporary monetary theory; theoretical and policy problems in the area of money and credit; selected current topics in macroeconomics; applications to both the domestic and international economies. Prerequisite(s): ECON 4020 or equivalent, or consent of department.

5420. Open Economy Macroeconomics. 3 hours. Rigorous theoretical and empirical examination of: macroeconomic policy options and their impact in the open economy; international monetary reforms and the impact of balance of payments adjustments under different monetary systems; role of international trade and foreign investment in economic growth. Prerequisite(s): ECON 5330.

5440. Economics of Natural Resources and Environment. 3 hours. Natural resource management and use; problems of renewable and non-renewable resources, including scarcity and market responses, role of property rights, externalities, benefit-cost analysis and energy policy with emphasis on Texas. Analysis of environmental problems and policy formulation. Prerequisite(s): ECON 1100-1110 or consent of department. Students may not receive credit for both ECON 4440 and 5440. Usually offered fall term/semester.

5460. Industrial Organization and Public Policy. 3 hours. Emphasizes relationships between structure, conduct and performance of industries. Topics include concentration, barriers to entry, pricing, mergers, product differentiation, technical change, antitrust and regulation. Case studies of selected American industries illustrate the theory and public policy implications. Individual readings and research required. Prerequisite(s): ECON 3550 or consent of department. Students may not receive credit for both ECON 4460 and 5460. Usually offered spring term/semester.

5550. Law and Economics. 3 hours. Advanced economic analysis of the mutual interaction between legal systems and economic activity. Topics include an introduction to legal systems and institutions, legal analysis, application of economic concepts to various legal doctrines, contracts, torts, criminal law, constitutional law, regulation and antitrust.

Emphasis is placed on using economic theory to develop and test hypotheses regarding the effects of laws on incentives and economic behavior, the allocation of resources and the distribution of income. Prerequisite(s): ECON 5000.

5600. Mathematical Economics. 3 hours. Mathematical approaches to economic theory: models of production, consumer choice, markets and pricing; simple macroeconomic models. Prerequisite(s): ECON 3550 or ECON 5030 and MATH 1710 or consent of department.

5630. Research Methods. 3 hours. Research methodology for business and the social sciences. Topics include research design; techniques of exploratory data analysis; measures of association; a survey of multivariate factor, discriminant and clustering procedures; and an introduction to linear regression analysis. Prerequisite(s): 3 hours of college statistics or consent of instructor. Offered fall term/semester only.

5640. Multivariate Regression Analysis. 3 hours. Focuses on the basic statistical methods employed in linear regression analysis using examples most often encountered in economics, finance and accounting. Topics include: linear and intrinsically linear regression models; estimation under ideal and non-ideal conditions, linear hypothesis testing; multicollinearity, and models with dummy variables. Usually offered fall and spring terms/semesters. Prerequisite(s): MATH 1710 and ECON 5630 or consent of department.

5645. Empirical Linear Modeling. 3 hours. Develops the tools necessary to analyze, interpret, and develop empirical applications of econometric estimation procedures. Students explore an assortment of applied problems that are typically encountered in quantitative research with particular attention given to the examination of real world, economic and business-related phenomena. Particular attention is given to developing proficiency in the following areas: organizing and manipulating data, estimating linear regression models, interpreting econometric results and computer output, and working with computer software. Prerequisite(s): ECON 5640.

5650. Advanced Econometrics. 3 hours. Focuses on the theoretical foundations of non-linear regression models often encountered in economics, finance and accounting. Topics include the multivariate classical linear regression model; ideal conditions for estimation of the classic linear regression model; linear and non-linear hypothesis testing; the method of maximum likelihood estimation; the consequences of departures from ideal conditions; structural and reduced form equations and models with exogenous regressors; models with qualitative and limited dependent variables; and models with panel data. Usually offered spring term/semester. Prerequisite(s): ECON 5600 and ECON 5640 or consent of department.

5660. Time Series Econometrics and Forecasting. 3 hours. Focuses on time series analysis and forecasting methodologies applied to problems typically encountered in economics, finance, and accounting. Topics include AR, MA and ARMA models; dynamic time series models; non-stationarity and tests for unit roots; ARCH and GARCH models; VAR models and impulse response functions; fractional integration and cointegration; and error correction models. Computer applications will be used to reinforce the theoretical models. Usually offered spring term/semester. Prerequisite(s): ECON 5640 or consent of department.

5670. Topics in Empirical Econometrics. 3 hours. Analysis, interpretation and development of empirical applications of econometric estimation procedures with emphasis on the examination of real-world economic phenomena and a focus on applied procedures including: dummy variables and structural change, heteroskedasticity, autocorrelation, simultaneous equations and causality, logit, probit, Tobit and panel data. Prerequisite(s): ECON 5650. Usually offered fall term/semester.

5700. Economic Development. 3 hours. General analysis and survey of development theories, problems and policies involved with those countries that have not yet attained the level of economic well-being and integration observed in the United States. Individual readings and research required. Prerequisite(s): ECON 1100-1110 or consent of department. Students may not receive credit for both ECON 4600 and 5700. Usually offered spring term/semester.

5750. Urban and Regional Economics. 3 hours. Using economic analysis to understand the development of cities and regions and how economic activity in the area is organized. Explores the economics of transportation and urban problems such as poverty, segregation, crime and congestion. Prerequisite(s): ECON 3550. Students may not receive credit for both ECON 4650 and 5750.

5850. International Trade. 3 hours. Examines the nature and theoretical foundations of modern trade between nations. Topics to be covered include patterns of international trade and production, welfare implications of trade, impacts of tariffs and quotas, balance of trade and balance of payments issues. Analysis of trade implications of international monetary systems, multinational corporations, exchange rates and economic implications of political action. Individual readings and research required. Prerequisite(s): ECON 1100-1110 or consent of department. Students may not receive credit for both ECON 4850 and 5850. Usually offered fall and spring terms/semesters and 5W1 (summer session).

5880. Seminar on Current Health Care Economics Research. 3 hours. Topics include health care reform; problems associated with health insurance markets; alternative health care financing systems in the United States and other countries; health care regulation by the states; universal health care coverage; and the “public goods” nature of health care. Topics are subject to change depending on the current trends in the field and relevancy to students’ interests. The course includes presentations and discussion of the student’s research papers. Prerequisite(s): ECON 4180 or 5180.

5900-5910. Special Problems. 1–3 hours each. Open to advanced students capable of doing independent research under the direction of the instructor. To be registered for only on recommendation of the department chair.

5920-5930. Research Problems in Lieu of Thesis. 3 hours each. Required of Master of Science candidates majoring in economic research or labor and industrial relations who choose not to take the exit exam (Option 1). A problem in lieu of thesis with an emphasis on empirical studies will be written and submitted. Prerequisite(s): consent of department.

5950. Master’s Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit. Required for Master of Arts and Master of Science in economics.

5960-5970. Economics Institute. 1–6 hours each. For students accepted by the university as participants in special institute courses. May be repeated for credit, but not to exceed a total of 6 hours.

Educational Administration and Supervision

see Teacher Education and Administration

Educational Curriculum and Instruction

see Teacher Education and Administration

Educational Foundations

see Teacher Education and Administration

Educational Psychology

see Technology and Cognition

Educational Research

see Technology and Cognition

Electrical Engineering

Electrical Engineering, EENG

5310. Control Systems Design. 3 hours. Control systems analysis, modeling and design constraints, goals, and performance specifications, state-space analysis of linear systems; Root-locus, frequency response and state-space design methods; MATLAB simulations; system stability-introduction to Lyapunov methods; controllability; observability; canonical forms and minimal realizations, fundamentals of feedback control dynamic programming and the Hamilton-Jacobi-Bellman equation; synthesis of optimum state regulatory systems; introduction to the minimum principle, necessary conditions for optimal trajectories; minimum principle for bounded controls, and time-optimal control of linear systems. Prerequisite(s): EENG 2620 or equivalent.

5520. Digital Integrated Circuit Design. 3 hours. Thorough investigation of the fundamentals in design and analysis of MOS digital integrated circuits. Topics include MOS transistor, transistor circuit design and analysis, interconnect modeling, dynamic logic circuits, memories and low-power circuit design. Prerequisite(s): EENG 2710, EENG 3520 or equivalent.

5530. Analog Integrated Circuit Design. 3 hours. This course thoroughly investigates the fundamentals in design and analysis of analog and mixed-signal integrated circuits. Topics include analog MOS transistor models, current sources and sinks, circuit reference, amplifier, feedback amplifiers, differential amplifiers and operational amplifiers. Prerequisite(s): EENG 3520 or equivalent.

5610. Digital Signal Processing. 3 hours. Introduction to modern digital signal processing theory and techniques. Topics covered include discrete time signals and systems, sampling theorem, Z-transform, frequency analysis of signals and systems, discrete Fourier transform, fast Fourier transform algorithms, digital filter design, and multi-rate digital signal processing. Prerequisite(s): EENG 2620 or equivalent.

5620. Statistical Signal Processing. 3 hours. Introduction to detection and estimation theories. Vector space, multivariate normal distribution, quadratic forms, sufficiency and minimum variance unbiased estimator, hypothesis testing, Neyman-Pearson detection theory, Bayesian detection theory, maximum-likelihood estimation, Cramer-Rao bound, Bayesian and minimum mean-squared error estimators, Kalman filter, least-squares estimation, singular value decomposition algorithm. Prerequisite(s): EENG 4610 and MATH 6810 or equivalent.

5630. Adaptive Signal Processing. 3 hours. Provides students with fundamental knowledge of modern adaptive signal processing theorems and algorithms and their applications in radar and wireless communications. Search algorithms, LMS, RLS adaptive filtering, adaptive signal modeling and applications. Prerequisite(s): EENG 2620, 3910 or equivalent.

5640. Computer Vision and Image Analysis. 3 hours. Introduction to computer vision and image processing, image geometry and photogrammetry, edge detection, feature extraction, shape representation, structural descriptions, object modeling, shape matching, semantic knowledge bases and imaging architectures, depth perception with stereo and photometric stereo, moving scene analysis and object tracking, multi-sensor data fusion, occluded object recognition by multi-sensor/multi-view integration, Computer vision applications.

5810. Digital Communications. 3 hours. Decision theory, signal space, optimal receivers, modulation schemes, error performance, bandwidth, channel capacity, block coding, convolutional coding, trellis coded modulation, inter-symbol interference, fading channels and spread spectrum. Prerequisite(s): EENG 3810 or equivalent. (Same as C SCE 5570.)

5820. Wireless Communications. 3 hours. Fundamentals of wireless communications. Topics covered include radio propagation channel characteristics and models, modulation, coding and receiver signal processing techniques in fading channels, multiple access techniques for wireless systems, fundamentals of wireless networks, and major cellular and wireless LAN standards. Prerequisite(s): EENG 5810 or equivalent. (Same as C SCE 5510.)

5830. Coding Theory. 3 hours. Channel coding theorem, error-correcting codes, algebraic block codes, linear codes, BCH codes, convolutional codes, burst-error correcting codes, and design of encoders and decoders. Prerequisite(s): EENG 3810 or equivalent.

5890. Directed Study. 1–3 hours. Study of topics in electrical engineering. The student should prepare a plan for study of a topic and a plan for evaluation of study achievements. Open to students with graduate standing who are capable of developing problems, independently. May be repeated for credit. Prerequisite(s): consent of department.

5900. Special Problems. 1–3 hours. Independent research of a specific problem in a field of electrical engineering. A report is required defining the problem and a solution. Prerequisite(s): consent of department.

5950. Master's Thesis. 3–6 hours. To be scheduled only with consent of department. No credit assigned until thesis has been completed and filed with the School of Graduate Studies. Prerequisite(s): consent of department.

Electronics Engineering Technology

see Engineering Technology

Elementary Education

see Teacher Education and Administration

Emergency Administration and Planning

see *Undergraduate Catalog*

Engineering Technology

Construction Engineering Technology – see *Undergraduate Catalog*

Electronics Engineering Technology, ELET

5300. Embedded Controllers. 3 hours. (2;2) The study of the technical aspects of real-time software systems: software development methodologies, operating system and real-time kernel concepts.

5310. Industrial Process Controls. 3 hours. (2;2) Use of programmable controllers and microcomputers as controllers in industrial processes; topics include sensors and transducers, data acquisition, control devices and the nature of digital control.

5320. Introduction to Telecommunications. 3 hours. An introduction to the technology, standards, systems and practices of the telecommunications industry to include equipment, switched and dedicated communications lines, and voice and data communications.

5330. Instrumentation System Design. 3 hours. (2;2) The major objectives of this course are instrumentation design techniques, transducer selection, and interfacing control and measurement signals to the system. The use of graphical and structured programming techniques in the design of virtual instrument systems will constitute a significant portion of the course. Completion of a capstone project incorporating a summation of learning experiences from the entire curriculum is a requirement of the course. Must be taken the last term/semester offered prior to graduation. Prerequisite(s): completion of ELET required courses; course is to be taken within the last 12 hours of the degree plan.

5340. Digital Logic Design Techniques. 3 hours. (2;2) Study of the design, simulation and implementation of digital logic circuits including combinational and sequential logic, algorithmic state machines, hardware test techniques, software used in design, simulation and an introduction to the use of VHDL programming language. Oral and written documentation required.

5800-5810. Studies in Engineering Technology. 1–3 hours. Organized classes specifically designed to accommodate the needs of students and the demands of program development that are not met by regular offerings. Short courses and workshops on specific topics, organized on a limited-offering basis, to be repeated only upon demand. May be repeated for credit.

5900-5910. Special Problems. 1–3 hours. Open to graduate students capable of developing a problem independently.

Engineering – see *Undergraduate Catalog*

Engineering Technology, Master's Courses, MSET

5000. Orientation to Engineering Technology. 1 hour. Review of policies and procedures of the engineering technology program, department, college and university regarding graduate studies. Formation of graduate committee and selection of major adviser. Development and submission of degree plan. Review of thesis procedures including library utilization, available programs of study and current faculty departmental research. Procedures and responsibilities of assistantships and scholarships. Determination of technical writing ability.

5010. Seminar in Engineering Technology. 3 hours. In-depth examination of current theories, research, trends and processes of industry. Readings, individual study and research, information exchange and guest lectures provide an understanding of selected industrial topics. May be repeated for credit.

5020. Industrial Research. 2 hours. A study of industrial analytical techniques used to develop new products and new technologies, including the use of engineering software for design purposes.

5040. Analytical Methods for Engineering Technology. 3 hours. Procedures for confidently detecting variances from specification in manufactured products; applications of matrix manipulations for multivariate analysis, engineering applications of residues calculated from circular integrals, integration and differentiation of three-dimensional engineering functions.

5800-5810. Studies in Engineering Technology. 1–3 hours each. Organized classes specifically designed to accommodate the needs of students and the demands of program development that are not met by regular offerings. Short courses and workshops on specific topics, organized on a limited-offering basis, to be repeated only upon demand. May be repeated for credit.

5900-5910. Special Problems. 1–3 hours each. Open to graduate students capable of developing a problem independently.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

General Engineering Technology – see *Undergraduate Catalog*

Manufacturing Engineering Technology – see *Undergraduate Catalog*

Mechanical Engineering Technology, MEET

5030. Product Design and Development. 3 hours. Formal development of the process of designing a product, including ideas generation, engineering development, modeling and analysis, and project planning and management.

5100. Nontraditional Manufacturing Processes. 3 hours. Analysis of selected contemporary and emerging manufacturing/production processes utilizing high-level automation, productivity-enhancing technologies and/or specialty technologies; emphasis on process structure, organization, economics and application within the industrial environment.

5120. Computer-Integrated Manufacturing. 3 hours. (2;2) Computerization in manufacturing/production from an integrated systems perspective; emphasis on selected contemporary and emerging applications such as design/documentation, engineering analysis, process planning, machine tool programming, automated material handling and inspection, and factory networking.

5130. Product Reliability and Quality. 3 hours. Processes and techniques of assuring the quality of industrial products; reliability and maintainability, sampling probability and statistical process control; quality control management.

5150. Applications of Electron Microscopy and Failure Analysis. 3 hours. (2;2) Scanning and transmission electron microscopy applications in failure analysis will be discussed along with ductile, brittle, fatigue and corrosion related failure mechanisms. Applications of fracture mechanics, elevated temperature failures of welded and cast components will be discussed.

5800-5810. Studies in Engineering Technology. 1–3 hours. Organized classes specifically designed to accommodate the needs of students and the demands of program development that are not met by regular offerings. Short courses and workshops on specific topics, organized on a limited-offering basis, to be repeated only upon demand. May be repeated for credit.

5900-5910. Special Problems. 1–3 hours. Open to graduate students capable of developing a problem independently.

Nuclear Engineering Technology – see *Undergraduate Catalog*

English

English, ENGL

5000. Old English. 3 hours. A study of Old English grammar and phonology; the reading of selections from prose and poetry in West Saxon; a survey of the literature of the Old English period. Prerequisite(s): 12 semester hours in advanced English, including a course from Group D. See *Undergraduate Catalog* for Group D course listing.

5010. Beowulf. 3 hours. A study of *Beowulf*, its language and its place in the Germanic epic tradition; some attention to other heroic poetry. Prerequisite(s): ENGL 5000.

5030. Studies in Medieval Literature. 3 hours. A detailed study of the works of one or more of the major writers or literary genres of the medieval period in England, with a study of the major literary and social forces that helped to shape the cultural context of the period.

5100. Studies in British Literature of the Romantic Period. 3 hours. A detailed study of the work of one or more of the major Romantic poets, together with wide reading in the general literature of the period.

5140. Form and Theory: Poetry. 3 hours. Rhetorical criticism of poetry to show how poems achieve identification with the audience; emphasis on student mastery of critical analysis.

5145. Form and Theory: Prose. 3 hours. Rhetorical criticism of prose fiction to show how short stories and novels achieve effect.

5162. Creative Writing: Essay. 3 hours. A close analysis of the contemporary essay; writing of essays using rhetorical principles in conjunction with invention, humor and polemics. Prerequisite(s): by permission of the department.

5170. Rhetorical Theory. 3 hours. A consideration of rhetorical theory from the Greeks to modern times. Emphasis upon 20th-century advances and innovations. The relationship between literary criticism and rhetorical theory; persuasive techniques in literary discourse; the place of rhetorical theory in the teaching of writing.

5200. Studies in British Literature of the Victorian Period. 3 hours. A study of the works of one or more of the major British writers of the Victorian period and of the intellectual and philosophical interests of the time.

5250. Studies in British Literature of the Eighteenth Century. 3 hours. An appraisal of a significant group of writers or a literary genre of either the Restoration or the 18th century, together with attention to the historical, intellectual and social background.

5260. Studies in Nineteenth-Century British Literature. 3 hours. A detailed survey of the works of the Romantic and Victorian periods, with a general consideration of social and intellectual interests of the time.

5400. Studies in Shakespeare. 3 hours. An intensive study of selected plays and a consideration of some of the literary problems connected with Shakespeare's life and work.

5410. Studies in the British Renaissance. 1–4 hours. A study of the works of one or more major authors of the 16th and 17th centuries and of the intellectual, philosophical and religious life of the time.

5420. Creative Writing: Poetry. 3 hours. A study of the principles of poetic composition in traditional forms as well as free verse. Format includes lecture and workshop. Prerequisite(s): consent of the department.

5490. Studies in the Twentieth-Century British Novel. 3 hours. A detailed study of the writings of one or more major 20th-century British novelists, with consideration of relevant social and intellectual interests of the time.

5500. Studies in American Literature from the Beginning to 1800. 3 hours. A survey of the writings of major Colonial and Federalist American authors and a general consideration of the social and intellectual interests of the time.

5510. Studies in American Literature, 1800 to 1865. 3 hours. A detailed study of the writings of major authors and a general consideration of the social and intellectual interests of the time.

5520. Studies in American Literature, 1865 to 1914. 3 hours. A detailed study of the writings of major authors and a general consideration of the social and intellectual interests of the time.

5530. Studies in American Literature, 1914 to the Present. 3 hours. A detailed study of the writings of major authors and a general consideration of the social and intellectual interests of the time.

5540. Studies in Twentieth-Century British Literature. 3 hours. A detailed study of the complete writings of one or more major 20th-century British authors, with consideration of relevant social and intellectual interests of the time.

5550. Studies in the Teaching of Composition. 3 hours. Survey of current scholarly opinion concerning objectives and methods of instruction in written composition; supervised planning of the English curriculum, with special attention to problems related to teaching composition; development through practice of criteria for evaluating student composition. May be repeated for credit as topics vary. Either ENGL 5550 or ENTW 5550 is required for all new teaching fellows (offered every fall).

5560. Studies in the Teaching of Literature. 3 hours. Survey of current scholarly opinion concerning objectives and methods of teaching literature; supervised planning of the English curriculum, with special attention to problems related to the teaching of poetry, drama, prose fiction and prose non-fiction.

5570. Studies in the Teaching of the English Language. 3 hours. Survey of current scholarly opinion concerning objectives and methods of teaching grammar, vocabulary, semantics, usage and other aspects of language; supervised planning of the curriculum with special attention to problems related to the teaching of the English language in its spoken and written forms.

5600. Studies in European Literature. 3 hours. Study of a major period or movement in continental European literature; extensive reading in literature in translation and research in literary history and development, with emphasis upon relations to British and American literature.

5630. Semiotics. 3 hours. An introduction to the study of signs as signifiers of meaning in various genres.

5700. Classical Background of English and American Literature. 3 hours. A study of Greek and Latin literature in translation, with emphasis upon works that have strongly influenced English and American literature; research in literary and linguistic influences.

5710. Studies in Folklore. 3 hours. An introduction to the types of folklore, with emphasis upon cultural phenomena as reflected in tales, legends, proverbs and folk songs, and upon folklore motifs as bases for formal literature. Techniques of collecting, comparing and analyzing folklore.

5750. Bibliography and Methods of Research in Literature. 3 hours. An examination of the basic materials available for research in British and American literature; study of the conventions of presentation of material in scholarly writing; consideration of types of bibliography, problems in textual analysis and criticism, and methods of research in literary history and literary criticism.

5760. Scholarly and Critical Writing. 3 hours. Examination of the writing strategies entailed in preparing successful term papers, theses, dissertations and publishable articles.

5800. Studies in Literary Genres. 3 hours. A study of the historical development of one or more literary genres in American, English, continental or world literature, with attention to major practitioners in the genre and to the historical and literary influences on the form.

5810. Studies in Literary Criticism. 3 hours. A study of one or more major strains of critical emphasis, with special attention to those that have been influential in the 20th century.

5820. Creative Writing: Prose Fiction. 3 hours. A study of the principles of prose fiction as exemplified in published and unpublished works. Emphasis on writing for specific subgenres and methods of preparation and submission of work. Workshop format is employed. Prerequisite(s): by permission of the department.

5825. Screenwriting. 3 hours. A study of the principles of dramatic composition as applied to writing for the motion picture or television screen.

5890. Studies in the American Novel, 1914 to the Present. 3 hours. A detailed study of the writings of one or more major American novelists and a general consideration of the social and intellectual interests of the time.

5900-5910. Special Problems. 1–3 hours each. Conference course open to advanced students capable of doing independent research under the direction of the instructor. Registration permitted only when other graduate courses are not available and only upon the recommendation of the instructor and the consent of the department chair. A maximum of 3 semester hours credit is allowed for each course.

5920-5930. Research Problems in Lieu of Thesis (Original Scholarly Papers). 6 hours each. (0;0;6) Courses each require the composition of an original scholarly paper in the field of linguistics and/or English as a second language. Prerequisite(s): consent of department.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

5960-5970. English Institute. 1–6 hours each. For students accepted by the university as participants in special institute courses. May be repeated for credit but not to exceed 6 hours in each course.

6020. Seminar in Old and Middle English Language or Literature. 3 hours. A study in depth of a single writer, a group of writers, a literary genre or a literary fashion of the period; consideration of the cultural context of the literary work.

6200. Seminar in British Literature, 1500–1660. 3 hours. A study in depth of a single writer, a group of writers, a literary genre or a literary fashion of the period; consideration of the cultural context of the literary work.

6250. Seminar in British Literature, 1660–1780. 3 hours. A study in depth of a single writer, a group of writers, a literary genre or a literary fashion of the period; consideration of the cultural context of the literary work.

6410. Seminar in British Literature, 1780 to the Present.

3 hours. A study in depth of a single writer, a group of writers, a literary genre or a literary fashion of the period; consideration of the cultural context of the literary work.

6500. Seminar in American Literature to 1865. 3 hours. A study in depth of a single writer, a group of writers, a literary genre or a literary fashion of the period; consideration of the cultural context of the literary work.

6530. Seminar in American Literature, 1865 to the Present.

3 hours. A study in depth of a single writer, a group of writers, a literary genre or a literary fashion of the period; consideration of the cultural context of the literary work.

6590. Seminar in the Novel. 3 hours. A study in depth of a single novelist, a group of novelists, a literary genre or literary fashion of the period; consideration of the cultural context of the literary work.

6900-6910. Special Problems. 1–3 hours each. Conference course open to doctoral candidates doing independent research under the direction of the instructor.

6941-6942-6944. Directed Research. 1-12 hours each.

Doctoral research of an independent nature. May be repeated for credit.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

Linguistics, LING

5020. Studies in Historical Linguistics. 3 hours. Introduction to the study of language as it changes over time. Prerequisite(s): LING 4040 or 5040 or consent of instructor.

5040. Principles of Linguistics. 3 hours. General introduction to the core systems of the languages of the world, focusing on phonetics, phonology, morphology, syntax and semantics. Prerequisite(s): LING 3060 or consent of department.

5060. Second Language Acquisition. 3 hours. Covers a broad range of issues concerning the acquisition of second languages. Topics include L1-L2 differences, child-adult L2 differences, the teachability of grammar and models of L2 acquisition. Prerequisite(s): LING 5040 or consent of instructor.

5070. Bibliography and Methods of Research in Linguistics/ESL. 3 hours. Introduces new graduate students to the academic tools required for research in linguistics or ESL. Areas of focus include bibliographic reference and indexing sources, the structure of experimental writing, research design, corpus-based linguistic analysis and statistical analysis. Should be taken during first term/semester of study if possible.

5080. Teaching English as a Second Language. 3 hours. Current pedagogical theory affecting the teaching of English as a second language. Both theoretical and applied approaches are considered.

5090. Pedagogical English Grammar. 3 hours. Thorough study of the basics of English grammar (morphology and syntax) analyzed from traditional, descriptive and theoretical points of view. Emphasis on pedagogical problems.

5300. Phonology. 3 hours. Detailed study of phonology in terms of contemporary theories of linguistic analysis. Relates sound systems to phonetic universals and to other components of a complete grammar. Prerequisite(s): LING 4040 and 5040, or consent of instructor.

5310. Syntax. 3 hours. Detailed study of the morpho-syntax and semantics of English and selected non-Indo-European languages in terms of contemporary linguistic theory. Prerequisite(s): LING 4040 or 5040, or consent of instructor.

5320. Studies in Applied Linguistics. 3 hours. Application of the principles and findings of linguistic science to the solution of selected practical problems, particularly those related to pedagogy, such as linguistics and language teaching, ESL testing and research methodology. Prerequisite(s): consent of instructor. May be repeated for credit as topics vary.

5330. Sociolinguistics. 3 hours. Study of the relationship of language and society as shown in the following areas: the ethnography of speaking (analysis of discourse), language variation and social class, pidgin and creole languages, diglossia and multilingualism, ethnic varieties, language and sex, language policy and planning. Prerequisite(s): LING 4040 or 5040 or consent of instructor.

5340. Practicum in Teaching English as a Second Language. 3 hours. Practical experience in the design and implementation of ESL instruction, including actual practice in the teaching of English to speakers of other languages. Prerequisite(s): LING 4080 or 5080 or consent of instructor.

5350. Language Typology and Universals. 3 hours. Data-oriented comparison and classification of the languages of the world according to their morphological and syntactic characteristics (role relations, word order, causatives, relative clauses, comparison, etc.) Emphasis is on working through real data from many languages. Prerequisite(s): LING 4040 or 5040 or consent of instructor.

5360. Studies in Descriptive Linguistics. 3 hours. Intensive study of a selected topic on linguistic structure, such as psycholinguistics, sociolinguistics or typology. Prerequisite(s): consent of instructor. May be repeated for credit as topics vary.

5370. Linguistics and Composition. 3 hours. A linguistic and psycholinguistic analysis of the process and product of writing, including discourse analysis, the process of reading, the cognitive processes of writing and sociolinguistic variables.

5380. Linguistic Field Methods. 3 hours. Experience in the discovery of the phonology, morphology and syntax of a language through techniques of elicitation and analysis of data. Prerequisite(s): LING 4040 or 5040 or consent of instructor. May be repeated for credit.

5390. Psycholinguistics. 3 hours. Deals with a variety of formal cognitive mechanisms that are relevant to the knowledge and use of natural languages. Primary emphasis is on the modular view of the mind and its consequences for both L1 and L2 language acquisition. Prerequisite(s): LING 4040 or 5040 or consent of instructor.

5590. Linguistics and Literature. 3 hours. A study of theories and methods of interpretation in terms of contemporary linguistics. The course provides practical training in the application of linguistic methods to literary analysis. May be repeated for credit as topics vary.

5900-5910. Special Problems. 1–3 hours each. Conference course open to advanced students capable of doing independent research under the direction of the instructor. Registration permitted only when other graduate courses are not available and only upon the recommendation of the instructor and the consent of the department chair. A maximum of 3 semester hours credit is allowed for each course.

5920-5930. Research Problems in Lieu of Thesis (Original Scholarly Papers). 3–6 hours each. (0;0;3–6) Courses each require the composition of an original scholarly paper in the field of linguistics and/or English as a second language. Prerequisite(s): consent of department.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

Technical Writing, ENTW

5180. Professional Writing. 3 hours. The application of the principles of technical style to writing in specialized fields. Topics of special emphasis include writing in the fields of scientific, report and legal writing. May be repeated for credit as topics vary.

5185. Principles of Technical Writing. 3 hours. Practical application of technical and professional writing in industry, business and the sciences, using the workshop approach.

5190. Style and Technical Writing. 3 hours. A study of the principles of technical style with intensive practice in writing and analyzing technical prose.

5191. Technical Writing and the Computer. 3 hours. A study of the role of the computer in technical writing environments, with emphasis on writing software documentation. Analysis of the social, psychological and behavioral impact of computers in workplace settings; intensive study and practice in designing and writing various types of software documentation.

5195. Editing Technical Documents. 3 hours. A study of the rules governing technical editing. Intensive practice in editing technical, business, government and scientific documents.

5280. Designing Technical Documents. 3 hours. Study of the theory of designing effective technical documents. Intensive practice in applying the theory of designing technical documents in industry, business and the sciences.

5285. Technical Presentations. 3 hours. Practice in preparing and delivering technical information to technical and lay audiences and readers. Study of the theories that form the basis for preparing and delivering technical presentations.

5550. Studies in the Teaching of Technical Composition. 3 hours. Survey of current scholarly opinion concerning objectives and methods of instruction in written technical composition; supervised planning of the English curriculum, with special attention to problems related to teaching technical composition; development through criteria for evaluating student composition. May be repeated for credit as topics vary. Either ENTW 5550 or ENGL 5550 is required for all new teaching fellows (offered every fall).

5580. Theories in Composition. 3 hours. A study of composition theories, leading to the development of research techniques and compositional skills.

5640. Practicum in Technical Writing. 6 hours. An extensive independent writing project addressing a problem in business or industry. Students may develop the project while working on an internship. Prerequisite(s): completion of the required and elective courses and the minor.

5740. Research in Technical Writing. 3 hours. An examination of the basic materials available for research in technical writing; analysis and application of qualitative and quantitative methods of research in technical writing; evaluation of the application of research results within professional workplace settings; and practice in the conventions of reporting research results for publication.

5900-5910. Special Problems. 1–3 hours each. Conference course open to advanced students capable of doing independent research under the direction of the instructor. Registration permitted only when other graduate courses

are not available and only upon the recommendation of the instructor and the consent of the department chair. A maximum of 3 semester hours credit is allowed for each course.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

Ensembles, Music

see Music

Ethnomusicology, Music

see Music

Finance

see Finance, Insurance, Real Estate and Law

Finance, Insurance, Real Estate and Law

Business Law, BLAW

5050. Legal, Regulatory and Ethical Environment of Business. 1.5 hours. Introduction to the legal environment of business, with particular emphasis on managerial decision-making. Includes a study of the litigation process and constitutional law; selected areas of private and public law, including government regulation; international dimensions of the legal environment of business, business ethics and the social responsibility of business organizations. Business context is emphasized with a focus on individual and managerial decision-making in response to legal and ethical issues.

5400. Law for Accountants and Managers. 3 hours. A study of and practice in the technique of analyzing law problems and cases affecting accountants and managers. Topics include legal responsibility, business organizations, contracts, debtor-creditor relations, government regulation, uniform commercial code and property rights.

5600. Current Topics in Law. 3 hours. Designed to provide information on the legal environment of specified functional areas as required by need of functional areas and/or changes in the law. May be repeated for credit as topics vary.

5610. Legal Issues in Electronic Commerce. 3 hours. Part of the electronic commerce track in the MBA program. Examination of the emerging law, ethics and public policy applying to computer technology, the Internet, and electronic business and commerce. Prerequisite(s): BLAW 5050, or equivalent with approval of instructor.

5760. Insurance Law. 3 hours. Designed to lead the student into a study of fundamental legal doctrines and concepts applicable to the field of insurance. Includes contract law, parties to the contract, insurable interest, agency powers, waiver and estoppel, warranties, representations and concealments, the rights of the beneficiary and provisions controlling and limiting loss. Pertinent to the life-health and property-liability insurance areas.

5770. Advanced Real Estate Law and Contracts. 3 hours. In-depth study of legal principles governing real estate transactions with an emphasis on promulgated contracts. Topics may include contract law, estates in land, types of ownership, deeds, mortgages, title insurance, agency and homestead.

5900. Special Problems. 1–3 hours. Open to graduate students who are capable of developing a problem independently. Problem chosen by the student and developed through conferences and activities under the direction of the instructor. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Advising Office prior to registration.

6790. Legal Aspects of Higher Education. 3 hours. Legal aspects and issues affecting institutions of higher learning and their administrations, faculties and students. Analyses of decisions rendered by the federal and state courts concerning procedural and substantive due process, civil rights, and the operation and function of higher education. (Same as EDHE 6790.)

Finance, FINA

5040. Introduction to Finance and Financial Mathematics. 1.5 hours. Understanding of finance terms, procedures and concepts used by managers in making financial decisions. Basic concepts and techniques of finance; the role of financial markets and institutions, interest rates, inflation and yield curve determinants; analysis and interpretation of financial mathematics to understand the time value of money; and bond and stock valuation models. Course meets the deficiency requirement of finance for MBA candidates and may be counted as part of the graduate program in a field other than business administration. Prerequisite(s): ECON 5000 or equivalent, MATH 1190 or equivalent.

5170. Financial Management. 3 hours. Tools and techniques used and proposed in corporate financial management. Analysis of the investment and financing decisions and the environment in which such decisions are made are covered in readings, case problems and class discussion. Prerequisite(s): ACCT 5020, FINA 5040, ECON 5000, MATH 1190, BCIS 5090, DSCI 5010, and completion of or concurrent enrollment in ACCT 5130. Students with 15 credit hours of approved undergraduate finance courses may elect to substitute another 5000-level finance course for this course subject to the approval of the FIREL department masters adviser.

5210. Investment Analysis and Management. 3 hours. Economic and industry studies, company analysis, selection of senior securities, theory and application of common stock valuation models, security markets and timing, portfolio management, options and futures markets. Prerequisite(s): FINA 5170 or equivalent; ECON 1100 or 5000 or equivalent; DSCI 5180 or equivalent; ACCT 2010 or 5020 or equivalent; MATH 1190 or equivalent, or consent of department.

5220. Theory and Application of Financial Derivatives. 3 hours. Theory, valuation and analysis of derivative securities; the use of options, futures and swaps in risk management; current applications to financial engineering and innovation. Prerequisite(s): FINA 5170 and 5210 or equivalents; ECON 1100 or 5000 or equivalent; DSCI 5180 or equivalent; ACCT 2010 or 5020 or equivalent; MATH 1190 or equivalent.

5230. Portfolio Management and Security Analysis in Investments. 3 hours. Overview of portfolio management and security analysis from the point of view of a trust officer, mutual fund manager, pension fund manager or other manager of securities. Emphasizes the need of financial

managers for an understanding of problems, trends and theory of portfolio management. Prerequisite(s): FINA 5210, DSCI 5180, or consent of instructor.

5310. Advanced Topics in Financial Management. 3 hours. Introduces the student to the use of financial decision models. Also focuses on the application of advanced theoretical models and provides an understanding of the interaction of financial decisions. Prerequisite(s): FINA 5170 or equivalent; ECON 1100 or 5000 or equivalent; DSCI 5180 or equivalent; ACCT 2010 or 5020 or equivalent; MATH 1190 or equivalent.

5400. Financial Markets and Institutions. 3 hours. The determination of interest rates, their term structure and the relationship with inflation. Management of interest rate risk. Financial instruments and their characteristics. Monetary policy, the Federal Reserve System and regulation. Introduction to the international financial system. Prerequisite(s): FINA 5170 or equivalent; ECON 1100 or 5000 or equivalent; DSCI 5180 or equivalent; ACCT 2010 or 5020 or equivalent; MATH 1190 or equivalent.

5410. Advanced Management of Financial Institutions. 3 hours. Current problems and issues in the management of financial institutions are covered in readings, case problems and computer simulation models. Prerequisite(s): FINA 5400.

5500. International Financial Management. 3 hours. Analyses of the balance of payments and its impact on domestic economies and currencies. Theories of financing foreign trade and investments. Foreign exchange markets and exchange rate behavior in theory and practice. Assessing exposure to the foreign exchange risk and the use of hedging tools and techniques. Prerequisite(s): FINA 5170 or equivalent; ECON 1100 or 5000 or equivalent; DSCI 5180 or equivalent; ACCT 2010 or 5020 or equivalent; MATH 1190 or equivalent.

5510. Theory of Finance. 3 hours. Advanced topics in the theory of finance. Topics include decision-making under uncertainty; equilibrium pricing models, capital structure theory; agency theory and the market for corporate control; signaling models; the pricing of contingent claims; current developments and selected readings in the finance literature. Prerequisite(s): FINA 5310 or equivalent; knowledge of differential and integral calculus, matrix algebra and intermediate microeconomics are recommended.

5650. Contemporary Issues in Finance. 3 hours. Current topics as selected by the instructor. May include cases and/or lecture format. Prerequisite(s): consent of instructor. May be repeated for credit.

5700. Integrative Capstone Course in Finance. 3 hours. Integrative cases and/or theory as selected by the instructor. Required for MS finance students. Open to MBA students, but all students must meet prerequisites. Prerequisite(s): FINA 5210, 5310, 5400 and 5500. One or two prerequisites may be taken concurrently.

5900-5910. Special Problems. 1–3 hours each. Open to graduate students who are capable of developing a problem independently. Problem chosen by the student and developed through conferences and activities under the direction of the instructor. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Advising Office prior to registration.

6010. Seminar in Business Administration. 3 hours. Covers one or more special fields. Prerequisite(s): approval of the PhD program adviser in the department. May be repeated for credit, and two or more sections may be taken concurrently.

6100. The Theory of Financial Decisions. 3 hours. Examines the theoretical underpinnings of financial decision making. Explores valuation and the impact on firm value of the investment, financing and dividend decisions under conditions of certainty and uncertainty in both perfect and imperfect markets. Prerequisite(s): FINA 5310 and doctoral standing, or consent of department.

6110. Special Topics in Financial Theory. 3 hours. Emphasizes current issues in theoretical finance. Students explore both current and classic literature and engage in individual research on the issues under consideration. Prerequisite(s): FINA 6100.

6900. Special Problems. 1–3 hours. Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs, accompanied by conferences with professors in fields involved. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Advising Office prior to registration.

6910. Independent Doctoral Research. 1–12 hours. Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs, accompanied by conferences with professors in fields involved. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Advising Office prior to registration. May be repeated for credit.

6940. Individual Research. 1–12 hours. Individual research for the doctoral candidate. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Advising Office prior to registration. May be repeated for credit.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Advising Office prior to registration. May be repeated for credit.

Real Estate, REAL

5350. Introduction to Real Estate and Investment Analysis. 3 hours. An advanced survey course on real estate, including topics in urban land economics, appraisal, law, finance, taxes and investments. Emphasis is on investment analysis of commercial property.

5440. Advanced Real Estate Finance and Analysis. 3 hours. Emphasis on the financial management of real estate assets in an institutional setting with special attention given to evaluation and control of risk and return trade-off by the decision maker. Additional topics to be included are real estate finance instruments, financing techniques, real estate financing institutions and markets. Prerequisite(s): REAL 5350 or consent of department.

5750. Real Estate Market and Feasibility Analysis. 3 hours. Analysis of financial and non-financial factors influencing the investment feasibility of income-producing property. Prerequisite(s): REAL 5350 or consent of department.

5760. Advanced Real Estate Investments and Analysis. 3 hours. Analysis of commercial real estate investments. Focus is on the theory and methods of investment analysis in respect to tax and financial consequences. Prerequisite(s): REAL 5350 or consent of department.

5780. Seminar in Real Estate Research. 3 hours. Reading and analysis of current real estate literature and research. Topics vary. Prerequisite(s): REAL 5350, 5440 and 5760.

5900. Special Problems. 1–3 hours. Open to graduate students who are capable of developing a problem independently. Problem chosen by the student and developed through conferences and activities under the direction of the instructor. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Advising Office prior to registration.

Risk Management and Insurance, RMIN

5730. Risk Management Techniques for the Business Executive. 3 hours. Designed to acquaint the student with the economic concept of risk; types of risk and techniques for the discovery, evaluation and treatment of pure risk in the business situation. Examination of the nature of insurance and other risk treatment techniques; the role of the risk manager within the firm; industrial accident prevention as related to the risk manager's role; types of loss and their financial impact on the costs of loss prevention versus its benefits; the risk manager's relationship with insurers; and current problem areas for risk management today, as time allows.

5770. Employee Benefits and Other Business Uses of Life and Health Insurance. 3 hours. Buy-sell agreements for businesses and life/disability income insurance funding, tax implications, group life, medical expense and disability income insurance plans, health maintenance organizations, pension plans, profit sharing plans, individual retirement accounts, Keogh plans, tax implications and regulation.

5780. Financial and Estate Planning. 3 hours. Designed to prepare students to assist individuals with their financial and estate planning. Study of appropriate strategies, the planning process and pertinent statutes as well as selected tools and techniques utilized in the acquisition, conservation, management and disposition of property. Covers insurance and investment programs, buy-sell agreements, tax planning and shelters, wills, trusts, powers of appointment and other related topics in conjunction with applicable income, gift and estate tax provisions.

5900. Special Problems. 1–3 hours. Open to graduate students who are capable of developing a problem independently. Problem chosen by the student and developed through conferences and activities under the direction of the instructor. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Advising Office prior to registration.

Foreign Languages and Literatures

Arabic – see *Undergraduate Catalog*

Chinese – see *Undergraduate Catalog*

French, FREN

5016-5026. French for Graduate Research. 3 hours each.

5016. French readings and related grammar designed to prepare graduate students for reading examination and to acquaint them with the language as a research tool. No prior knowledge of French is required. Evaluation on a pass/no pass basis.

5026. French readings and related grammar designed to prepare graduate students for reading examination and to acquaint them with the language as a research tool. Evaluation on a pass/no pass basis. Prerequisite(s): FREN 5016 or equivalent.

5150. Seminar in French. 3 hours. Topics include practicum in teaching college level French; and theory of teaching methodology and language acquisition in French (open to all graduate students). May be repeated for credit as topics vary.

5200. Seminar in French. 3 hours. Topics taught include the 20th-century French novel; the 20th-century French theatre; selected readings in 18th-century literature; selected French writers of the 19th century, such as Hugo, Balzac, Stendhal, Baudelaire and Flaubert; and French Renaissance literature, advanced grammar and advanced civilization and culture. May be repeated for credit as topics vary.

5300. French Linguistics. 3 hours. Covers a particular aspect of French linguistics, such as advanced French grammar, phonology, or morphology and syntax. May be repeated for credit as topics vary.

5310. Linguistic Analysis of French. 3 hours. Analysis of a particular linguistic system of French, such as phonology, morphology, syntax or semantics. May be repeated for credit as topics vary. Prerequisite(s): FREN 5300.

5320. Applied French Linguistics. 3 hours. Application of linguistic principles and empirical research to the description and teaching of French. May be repeated for credit as topics vary.

5330. History of the French Language. 3 hours. Consideration of all aspects of the development of the French language with concentration on internal development (phonology, morphology and syntax) from Latin to Modern French. Knowledge of Latin useful but not necessary.

5340. French Structures and Stylistics. 3 hours. Comparative analysis of French and English grammatical structures and stylistics with intensive writing practice, including translations. This is a required course that will enable students to improve their writing skills.

5350. Theory and Analysis of Literary Texts. 3 hours. Study of major essays on semiology and literary theory by French structuralist and post-structuralists. Focus on methods of literary analysis applied to representative prose/poetry of French classics. May be repeated for credit as topics vary.

5410. Topics in Medieval Literature. 3 hours. Study and analysis of poetic and/or prose writers and texts in Medieval France. May be repeated for credit as topics vary.

5430. Topics in Renaissance Literature. 3 hours. Study and analysis of poetic and/or prose writers and texts in 16th-century France. May be repeated for credit as topics vary.

5450. Seventeenth- and Eighteenth-Century French Theatre. 3 hours. Overview of French theatre in the 17th and 18th century, with emphasis on Corneille, Racine, Molière, Marivaux and Beaumarchais.

5460. The Seventeenth- and Eighteenth-Century French Epistolary Novel. 3 hours. Study and analysis of the epistolary novel in French literature, from its humble beginnings in the late 17th century to its heyday in the 18th century.

5500. Nineteenth- and Twentieth-Century French Poetry. 3 hours. Study and analysis of the major movements of French poetry of the 19th and 20th centuries, starting with the works of the Romantics, the Parnassians, the Symbolists (Baudelaire, Rimbaud, Verlaine and Mallarmé), including a survey of the development of the genre since the Surrealists (Apollinaire, Breton, Desnos) with an emphasis on poetry after 1950 (Ponge, Char, du Bouchet).

5520. Nineteenth-Century French Prose. 3 hours. Topics focus on either the development of the short story genre and/or the fantastic tale (Balzac, Gautier, Mérimée, and

Maupassant); or the development of the novel genre (Balzac, Flaubert, Stendhal, Maupassant). Includes the study of some film adaptations. May be repeated for credit as topics vary.

5540. Twentieth-Century French Novel. 3 hours. Topics focus on either the transformation of the novel genre throughout the century (Proust, Gide, Camus, Colette, Sartre, Giono, and contemporary developments); or concentrate on French Nouveau Roman (Butor, Duras, Ollier, Ricardou, Robbe-Grillet, Sarraute, Simon). The study of this major movement in 20th-century French novel will also include films and theory of the novel. May be repeated for credit as topics vary.

5560. French Autobiography. 3 hours. Study of autobiographical prose from Pre-Romanticism to contemporary transformations of the genre, including Gide, Céline, Sartre, Sarraute, Percec, Robbe-Grillet and Roubaud. May be repeated for credit as topics vary.

5580. French Detective Fiction. 3 hours. History and morphological study of the French detective genre, from its origins (Voltaire) and beginnings of the detective novel in the 19th century (Gaboriau) to the development of classical (Leblanc, Leroux, Simenon) and postmodern forms (Nouveau Roman, Modiano), including an overview of the recent renewal of the genre in the wake of Manchette's "Néo-polar". May be repeated for credit as topics vary.

5600. French Women Writers. 3 hours. Overview of women's contributions to French literature, from the Middle Ages through the modern age.

5710. History of French Civilization. 3 hours. A history of French civilization from the origins to World War I, including political and social history, art history, music history and literary movements.

5720. Contemporary France. 3 hours. Survey of contemporary France, including geography, demography, family, education, the value system, politics, the economy, leisure activities and culture, the place of France in the European Union, and current events.

5730. Topics on Contemporary France. 3 hours. Specialized topics may include women in France, education in France, social classes in France, the youth in France. May be repeated for credit as topics vary.

5740. Quebec Society and Culture. 3 hours. Overview of Quebec society and culture since its colonial origins. Topics include historical survey, "Révolution tranquille," identity, language concerns, institutions, ideologies, efforts toward separatism, social issues, culture (literature, art, film, chanson).

5900-5910. Special Problems. 1-3 hours each. Conference courses open only to advanced students capable of doing independent research under the direction of the instructor. Registration permitted only upon recommendation by the instructor and consent of the department chair.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

German, GERM

5017-5027. German for Graduate Research. 3 hours each.

5017. German readings and related grammar designed to prepare graduate students for reading examination and to acquaint them with the language as a research tool. No prior knowledge of German is required. Evaluation on a pass/no pass basis.

5027. German readings and related grammar designed to prepare graduate students for reading examination and to acquaint them with the language as a research tool. Evaluation on a pass/no pass basis. Prerequisite(s): GERM 5017 or equivalent.

Hebrew – see *Undergraduate Catalog*

Italian – see *Undergraduate Catalog*

Japanese – see *Undergraduate Catalog*

Language, LANG

5900-5910. Special Problems. 1–3 hours each. Conference courses open to advanced students capable of doing independent research under the direction of the instructor. Registration permitted only upon recommendation by the instructor and consent of the department chair. Prerequisite(s): consent of department.

Latin – see *Undergraduate Catalog*

Russian – see *Undergraduate Catalog*

Spanish, SPAN

5019-5029. Spanish for Graduate Research. 3 hours each.

5019. Spanish readings and related grammar designed to prepare graduate students for reading examination and to acquaint them with the language as a research tool. No prior knowledge of Spanish is required. Evaluation on a pass/no pass basis.

5029. Spanish readings and related grammar designed to prepare graduate students for reading examination and to acquaint them with the language as a research tool. Evaluation on a pass/no pass basis. Prerequisite(s): SPAN 5019 or equivalent.

5150. Seminar in Spanish. 3 hours. Topics include practicum in teaching college Spanish; and theory of teaching methodology and language acquisition in Spanish (open to all graduate students). May be repeated for credit as topics vary.

5200. Seminar in Spanish. 3 hours. Topics include Spanish prose of the Golden Age, the Generation of '98, the 19th-century Spanish novel, the 20th-century Spanish essay, the Spanish-American short story, Spanish-American poetry, Gauchesque literature, the contemporary Spanish-American novel, advanced grammar and advanced civilization and culture. May be repeated for credit as topics vary.

5211. Mexican Civilization and Culture. 3 hours. Survey of Mexican civilization and culture intended to develop a critical awareness of the writing of history and its consequences for the present and future. The politics, social structures and traditions of the Mexican world from the pre-Columbian period until today are studied with a special focus on their contemporary life in order to build a foundation for a more in-depth study of the life, literature and culture of Mexico.

5212. Spanish Civilization and Culture. 3 hours. Survey of Spanish civilization and culture intended to develop a critical awareness of the writing of history and its consequences for the present and future. The politics, social structures, and traditions of the Spanish world from the Paleolithic period until today are studied with a special focus on their contemporary life in order to build a foundation for a more in-depth study of their life, literature and culture.

5213. Latin American Civilization and Culture. 3 hours. Survey of Latin American civilization and culture intended to develop a critical awareness of the writing of history and

its consequences for the present and future. The politics, social structures, and traditions of Latin America from the indigenous period until today will be studied with a special focus on their contemporary life in order to build a foundation or a more in-depth study of the culture.

5230. Advanced Spanish Grammar. 3 hours. Introductory course to advanced grammar that explores the grammatical aspects of contemporary Spanish from both theoretical and practical perspectives. The main objectives are to broaden knowledge of Spanish grammar at an advanced level and to develop analytical skills to apply theories to linguistic data.

5235. History of the Spanish Language. 3 hours. Examines the evolution of the Spanish language from medieval to modern time. Emphasizes the transformation of Vulgar Latin to medieval Castilian to the consolidation of Spanish as an imperial language.

5290. Latin American Literature and Film. 3 hours. Explores the rich Latin American tradition of literary works and their filmic counterparts. Includes works from Argentina, Colombia, Cuba and Mexico, as well as authors and film makers such as Paz, García, Márquez, Puig, Solas, Gutiérrez Alea and Bemberg. The course is to be held in Spanish; the literary works and films are also in the target language. Prerequisite(s): admittance to the MA program in Spanish.

5340. Latin American Colonial Literature I. 3 hours. Detailed study of the Spanish chronicles, indigenous pictorial and alphabetic texts produced during the first one hundred years after the conquest with special attention paid to the justification of the Spanish conquistadors and the counter-discourse of the indigenous people in the Americas.

5341. Latin American Colonial Literature II. 3 hours. Examination of pre-Hispanic indigenous and Creole texts including Nahuatl poetry, the Popol Vuh, and Sor Juana's poetry. Emphasis on indigenous and Creole worldview and the Creole modification of indigenous history during the colonial period.

5342. Latin American Romanticism and Realism. 3 hours. General overview of romantic and realist/naturalist novels in 19th-century Latin America with an emphasis on the efforts to establish political and cultural systems for the newly independent nations, the resistance to dictatorship, and the conflicts between races, genders and social classes. Readings include Echeverría, Sarmiento, Hernández, Isaacs, Cambaceres and Matto de Turner. Nationalist, postcolonial and feminist theories are introduced as major methodological approaches to analyze the novels.

5380. The Spanish-American Novel. 3 hours. The Spanish-American novel of the 19th and 20th centuries. Readings, lectures and term projects.

5480. Spanish Poetry. 3 hours. The development of Spanish poetry from its origins to the present. Readings, lectures and term projects.

5900-5910. Special Problems. 1–3 hours each. Conference courses open to advanced students capable of doing independent research under the direction of the instructor. Registration permitted only upon recommendation by the instructor and consent of the department chair.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

French

see *Foreign Languages and Literatures*

General Music

see Music

General Engineering Technology

see *Undergraduate Catalog*

Geography

Archaeology, ARCH

5260. Topics in Archaeology. 3 hours. Selected topics of interest and significance in archaeology. Subjects such as archaeological methods, historic archaeology, Texas archaeology, New World archaeology, Old World archaeology and meso-American archaeology are potential topics offered during different semesters. May be repeated for credit as topics vary. Prerequisite(s): consent of department. (Meets with ARCH 4620).

Geography, GEOG

5000. Graduate Seminar. 1 hour. Case study presentations in geography, archaeology and geology, demonstrating research applications, methods and communication strategies. Research presentations by faculty, staff and students from UNT and other organizations. Also a forum for thesis proposals and defenses. Prerequisite(s): graduate standing. May be repeated for credit.

5030. British Isles Field School. 6 hours. Applying geographical field techniques in a foreign setting – the British Isles and Ireland. The field school is centered on five base sites – Plymouth, Cork, Galway, Aberystwyth and Edinburgh. At each site, students conduct one-day human and physical geography field exercises. Topics include: mapping historic changes in commercial function in Plymouth; combining field mapping, air photo and map analysis to measure coastal erosion in Cork; field survey of rural service provision in Tipperary County; physical and human dimensions of flood hazard in Aberystwyth; comparison of medieval, Georgian and modernist town planning in Edinburgh. Duration of fieldwork is approximately three weeks.

5040. Ghana Field School. 6 hours. Geography of health and economic development in Ghana. The trip includes visits to herbalists, hospitals and rural clinics, a gold mine, slave castles, and industrial sites such as cocoa processing plants and timber mills. Duration of fieldwork is approximately three weeks.

5050. Cartography and Graphics. 3 hours. (1;2) Construction and interpretation of topographic maps; thematic mapping of geographically referenced data; field mapping and survey techniques; introduction to geographic information systems and computer graphics.

5060. Applied GIS: MapInfo Professional.® 3 hours (1;2) Introduction to conceptual and practical aspects of geographic information systems. Emphasis on applications, using sociodemographic and business examples. Topics include: importing and mapping census data, creating and editing map attribute databases; geocoding, buffering, aggregating data, thematic maps, applications.

5110. Research Design and Geographic Applications. 3 hours. Themes in geographical research, application of scientific method in spatial problem-solving and analysis.

5120. Research in Physical Geography. 3 hours. Study of physical processes manifest at or near the earth's surface. Topics will focus on atmosphere, hydrologic, geomorphic, and tectonic processes and associate phenomena. May be repeated for credit as topics vary.

5130. Research in Human Geography. 3 hours. Study of spatial and ecological relationships with cultural, demographic, political, economic and social forces shaping human settlement patterns. May be repeated for credit as topics vary.

5150. Water Resources Seminar. 3 hours. Topics will be considered from ecology, ground water hydrology and fluvial geomorphology. Special consideration is given to energy flows within the watershed, and the economic, political, legal and ecological consequences of ground water depletion. May be repeated for credit as topics vary.

5170. Map-Air Photo Analysis and Remote Sensing. 3 hours. Evaluation and interpretation of maps and aerial photographs, including infrared imagery and remote sensing techniques.

5190. Advanced Quantitative Techniques. 3 hours. Application of advanced statistical procedures including multivariate techniques to analysis of point and areal patterns and spatial data. Prerequisite(s): GEOG 3190 or consent of department.

5210. Seminar in Urban Geography. 3 hours. Study of current perspectives on geographic inquiry as they relate to metropolitan development and change; the economic, social and political production of space; economic restructuring; segregated spaces; spatial conflicts; corporate and urban hierarchy; urban physical environment. Prerequisite(s): either ECON 4650, GEOG 4210, PSCI 4020 or SOCI 3300.

5250. Climatology. 3 hours. Description and analysis of world climates; major classifications, controls, regional distribution and change. Prerequisite(s): consent of department.

5350. Geomorphology. 3 hours. Processes of land form analysis. Glacial, desert, fluvial and other settings are reviewed along with basic processes of construction, erosion and weathering.

5400. Environmental Modeling. 3 hours. (2;2) Modeling of environmental processes and human impacts on the environment to include topics on sensitivity, calibration and evaluation, watersheds, non-point source pollution, hydrological models, GIS, water and air quality models, pollutant transport and fate, and ecotoxicology. Prerequisite(s): graduate standing or consent of department.

5410. Location-Allocation Modeling. 3 hours. Introduction to location-allocation models for service delivery, covering p-median, p-center and hierarchical models and their applications; data accuracy, aggregation and distance problems in location-allocation modeling. Prerequisite(s): consent of department.

5500. Introduction to Geographic Information Systems. 4 hours. (2;4) Introduction to the concepts and applications of computer-based spatial data handling, known as Geographic Information Systems (GIS) technology. Illustrates the essential methods of GIS and applications in fields including geography, business, administration, planning and environmental science. Students gain application skills via a series of laboratory exercises illustrating problem solving strategies using up-to-date GIS software packages. Prerequisite(s): consent of department.

5520. Intermediate Geographic Information Systems. 4 hours. (2;4) Step-by-step approach to spatial data integration and analysis, and cartographic presentation. Topics include data models and structures, map algebra, surface analysis, three-dimensional rendering, network analysis, sharing and distributing maps, and design and implementation of GIS project in an area pertinent to the student's interests. Prerequisite(s): GEOG 5500 or consent of department.

5550. Advanced Geographic Information System. 3 hours. (1;3) Advanced spatial analysis through the use of specialized software and the design and development of spatial databases and applications. The course includes project planning, database development, data manipulation and analyses, model building, internet mapping, and project presentation. Students gain advanced application skills through laboratory exercises and implementation of a GIS project in the area of pertinent to the student's interests. Prerequisites: GEOG 5520 or consent of the department.

5560. Visual Programming for Geographic Information Systems. 3 hours. (1;2) Modern GIS embraces the concept of open systems, which means GIS software can be customized to fit specific requirements of individual implementation environments. To meet the high demand of this kind, this course introduces basic concepts and skills of object-oriented programming and GIS customization using Visual Basic (VB) and Visual Basic for Applications (VBA). Students gain programming skills in accessing maps, data layers, features and geometric objects in GIS. Prerequisite(s): GEOG 5500 or consent of department.

5600. Seminar in Environmental Policy. 3 hours. Analysis and evaluation of environmental policy, including spatial, historical, economic, ecological and institutional dimensions of contemporary resource management issues.

5630. Soils Geomorphology. 4 hours. (3;3) Methods and applications of soils and landform analysis. Soils classification, formation processes and relationships to landforms and vegetation are stressed. Methods of soils description, mapping and physical-chemical analysis are taught, and applications to study of landscape changes and land-use planning are emphasized. Prerequisite(s): consent of department.

5650. Environmental Geology. 3 hours. Geologic aspects of land-use planning; earthquakes, landslides, coastal processes, streams and flooding, soils, groundwater and waste disposal; planning for the future.

5700. Global Dynamics. 3 hours. (2;2) Biosphere-geosphere models on a global scale. Topics include past global changes and climate variability, assessing impacts of global change, dynamic biogeography, interdisciplinary approaches, economics and policy issues, and applications of GCM, GIS and remote sensing. Prerequisite(s): graduate standing or consent of department.

5850. Introduction to Groundwater Hydrology. 3 hours. Topics include principles of groundwater flow; aquifer properties and characteristics; geology of groundwater occurrence; groundwater development and methods for assessing and remediating groundwater contamination. Emphasis on application of basic principles.

5900. Special Problems. 1–3 hours. Research by graduate students in fields of special interest. Prerequisite(s): consent of department.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

5960. Geography Institute. 3 hours. For students accepted by the university as participants in special institute courses. May be repeated for credit as topics vary.

Geology – see *Undergraduate Catalog*

Geology

see *Undergraduate Catalog*

German

see Foreign Languages and Literatures

Health Promotion

see Kinesiology, Health Promotion and Recreation

Hebrew

see *Undergraduate Catalog*

Higher Education

see Counseling, Development and Higher Education

History

History, HIST

5040. Studies in Modern European History. 3 hours. Extensive readings and study in one of the topical areas of modern European history. May be repeated for credit as topics vary.

5060. Seminar in Recent and Contemporary European History. 3 hours. Studies in European history since World War I.

5080. Seminar in Modern European History. 3 hours. Research seminar in modern European history. May be repeated for credit as topics vary.

5100. Seminar in United States History. 3 hours. Research seminar in United States history. May be repeated for credit as topics vary.

5110. Studies in United States History. 3 hours. Extensive readings and study in United States history. May be repeated for credit as topics vary.

5130. Studies in World History: Latin American or Asian. 3 hours. Extensive readings and study in either Latin American or Asian history. May be repeated for credit as topics vary.

5150. Seminar in World History: Latin American or Asian. 3 hours. Research seminar in either Latin American or Asian history. May be repeated for credit as topics vary.

5190. Studies in Near East/African History. 3 hours. Extensive readings and study in one of the topical areas of Near East/African history. May be repeated for credit as topics vary.

5220. Studies in United States Military/Diplomatic History. 3 hours. Extensive readings and study in either United States military or diplomatic history. May be repeated for credit as topics vary.

5230. Seminar in United States Military/Diplomatic History. 3 hours. Research seminar in either United States military or diplomatic history. May be repeated for credit as topics vary.

5240. Studies in European Military/Diplomatic History. 3 hours. Extensive readings and study in either European military or diplomatic history. May be repeated for credit as topics vary.

- 5250. Seminar in European Military/Diplomatic History.** 3 hours. Research seminar in either European military or diplomatic history. May be repeated for credit as topics vary.
- 5260. Seminar in Near East/African History.** 3 hours. Research seminar in Near East/African history. May be repeated for credit as topics vary.
- 5420. Research Seminar in Local History.** 3 hours. Research and writing of local history.
- 5460. Archives and Manuscript Repositories Studies.** 3 hours. Examines the theory and role of archives and manuscript repositories, their history and basic practices used in each.
- 5470. Museum Studies.** 3 hours. Examines the theory and role of museums in history and basic practices used in them.
- 5480. Applied History Practicum.** 3 hours. Practical experience in collecting, evaluating, preparing, describing and displaying archives, manuscripts and artifacts that involve either archives or museums. Includes working experience in either an archive, manuscript repository or museum. Prerequisite(s): HIST 5460 or 5470.
- 5500. Techniques of Oral History.** 3 hours. Training in methodology of conducting, editing, transcribing and indexing interviews with eyewitnesses to or participants in historic events; emphasis on archival functions.
- 5520. Oral History: Project Development and Implementation.** 3 hours. (0;0;3) A detailed, advanced consideration of the planning and development of an oral history project. Purpose is to create sources of research information to be used writing the master's thesis. Prerequisite(s): HIST 5500. May be repeated for credit.
- 5900-5910. Special Problems.** 1–3 hours each. Conference courses open to advanced students capable of doing independent research under the direction of the instructor. Registration permitted only with consent of department.
- 5940. Historical Bibliography.** 1 hour. An introduction to major reference materials in American and European history with discussions of significant research centers. Required for all beginning graduate students unless waived by the department chair or graduate committee chair.
- 5950. Master's Thesis.** 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.
- 5960-5970. History Institute.** 1–6 hours each. For students accepted by the university as participants in special institute courses. May be repeated for credit as topics vary but not to exceed a total of 6 hours in each course.
- 5980. Teaching of College History.** 1 hour. An examination of the philosophies and techniques of teaching history at the college and university level. Open to all graduate students and required of all history teaching fellows at their first opportunity to take it. This course is in addition to other degree requirements.
- 6000. Historiography.** 3 hours. United States and European historiography. A history of United States and European historical literature. Required of all PhD students in history.
- 6900-6910. Special Problems.** 1–3 hours each. Research by doctoral students in the fields of special interest. Prerequisite(s): consent of department.
- 6940. Individual Research.** 3 hours. Doctoral research of an independent nature. May be repeated for credit.
- 6950. Doctoral Dissertation.** 3, 6 or 9 hours. To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and

filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

Honors Courses

see *Undergraduate Catalog*

Human Service Management and Leadership

see *Undergraduate Catalog*

Information Science

see Library and Information Sciences

Information Technology and Decision Sciences

Business Computer Information Systems, BCIS

5090. Introduction to Business Computer Information Systems. 1.5 hours. Examines the interaction between information systems and the organizational context. Specific topics to be covered include the strategic role of information systems (IS), interorganizational systems, the Internet and WWW, electronic commerce, reengineering, the human impacts of IS, the management of change, IS development and implementation, and emerging types of information technology. Course work includes lectures, readings, case analyses and discussion, electronic meeting technology, hands-on computer assignments and a team field project.

5100. E-Commerce Systems Technologies. 3 hours. Tools, skills, and understanding of the key technologies used in e-commerce, from basic systems design and networking to web site content-management technologies. Prerequisite(s): BCIS 5090 or equivalent, or consent of the department.

5105. E-Business Site Construction. 1.5 hours. Introduction to the technologies of electronic business web site design. Topics include the principles of web design, use of animation and sound, and the creation of database-driven sites. Prerequisite(s): BCIS 5100 or consent of department.

5110. Structure of Programming Languages. 3 hours. Introduces graduate students to new approaches in programming business applications. Makes use of visual programming tools as well as traditional programming tools such as COBOL. Problem-solving techniques and structured programming are covered early and used throughout the course. Prerequisite(s): BCIS 5090 or equivalent, or consent of department.

5120. Information Systems Development. 3 hours. The foundations of business information systems analysis and design. Concentration on contemporary design methodologies and computer-aided software engineering techniques. Topics include strategic information systems planning, requirements analysis, user interface design, data design, process design, system testing, ethics and system audit ability, control and security. Prerequisite(s): BCIS 5090 or equivalent, or consent of department.

5130. Fundamentals of Presentation Design. 3 hours. Focuses on the concepts, design and delivery of business presentations in today's challenging business environments. Develops techniques for defining target audiences and meeting their demands, especially senior executive demands. Address issues of written, oral and electronic presentation to these target audiences. Applies the elements and principles of aesthetic design, as well as basics of color theory and its application, to presentations. Requires students to develop an appreciation for both functional and aesthetic design. Prerequisite(s): BCIS 5090 or consent of department.

5420. Foundations of Database Management Systems. 3 hours. An introduction to database and database management systems technology within the framework of a business environment. Topics include the study of analysis, design, development and implementation of database-oriented file organizations in business applications. Prerequisite(s): BCIS 5120 or equivalent, or consent of department.

5600. Visual Information Technologies. 3 hours. The role of visual information systems in organizations. Alternative taxonomies of information systems, in particular, modes of processing. Human-machine information and data access systems. Prerequisite(s): BCIS 5110 or equivalent, or consent of department.

5610. Executive and Decision Support Technologies. 3 hours. An analysis of how computer systems can assist executive decision making and improve productivity. Emphasis is placed on the design, construction, utilization and managerial impacts of executive support systems. Prerequisite(s): BCIS 5120 or consent of department.

5620. Networking and Telecommunications. 3 hours. The purpose of this course is to develop an understanding of the strategic impact on the business organization of the convergence of telecommunications and computer topics. The course includes the design and organizational restructuring issues associated with new technologies in telecommunications. Prerequisite(s): BCIS 5120 or consent of department.

5630. N-Tier Systems. 3 hours. Examines technical and managerial issues associated with the design, development and deployment of client/server computer systems. Topics include architectures, platform connectivity and project management. Prerequisite(s): BCIS 5110, 5120 and 5420, or consent of department.

5640. Object-Oriented Systems. 3 hours. Examines a variety of managerial issues associated with developing and implementing object-oriented system applications within business. Prerequisite(s): BCIS 5120 and 5420, or consent of department.

5650. Emerging Information Technologies. 3 hours. Examines various managerial and technical issues associated with the introduction of new information technologies within the firm. Subjects include environmental scanning for new IT developments, assessment of new IT and legal/ethical issues. Prerequisite(s): BCIS 5120 and 5420, or consent of department.

5660. Data Administration and Project Management. 3 hours. Examines data administration and project management functions including the implementation and acquisition of business computer information systems within the constraints of legal, technological, economic and environmental issues. Topics are analyzed with respect to their impact on the selection, acquisition, utilization and evaluation of business computer information systems. Prerequisite(s): BCIS 5120 and 5420, or consent of department.

5670. International Issues in Information Technology. 3 hours. Discussion and in-depth analysis of contemporary information systems topics with emphasis on the economic and technological impact of computer information systems on the business environment. Prerequisite(s): BCIS 5120 or consent of department.

5680. Web-Based Systems Development. 3 hours. Provides tools, skills and an understanding of technology, business concepts and issues that surround the emergence of electronic commerce on the Internet. In addition to acquiring basic skills for navigating the Internet and creating a personal electronic presence of the World Wide Web, the student will develop an understanding of the current practices and opportunities in electronic publishing, electronic shopping, electronic distribution and electronic collaboration. The student will also explore several of the problem areas in electronic commerce such as security (authentication, privacy), encryption, safeguarding or intellectual property rights, acceptable use policies and legal liabilities. Prerequisite(s): BCIS 5120 and 5420, or consent of department.

5690. Topics in Information Technology. 3 hours. Current issues dealing with the development and use of information technologies in business. Prerequisite(s): BCIS 5120 or consent of department. May be repeated for credit.

5700. Strategic Use of Information Technology. 3 hours. Provides an overview and understanding of the issues involved in the strategic management of the information assets of organizations. Examines a broad range of issues and problems associated with the management of information technology (IT) and information systems (IS) and their alignment with the strategic goals of the organizations. Focuses on the managerial rather than the technical issues and views IS from the perspective of managers at all levels. Prerequisite(s): Completion of Foundation and Technology Sequence course work and within 9 hours of graduation.

5800. Cooperative Education Internship. 1–3 hours. Supervised work in a job related to student's career objective. Prerequisite(s): student must meet employer's requirements and have consent of department chair or BCIS master's coordinator. Pass/no pass only; cannot be used as a support course.

5900-5910. Special Problems. 1–3 hours each. Open to graduate students who are capable of developing a problem independently. Problem chosen by the student and developed through conferences and activities under the direction of the instructor. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Programs Office prior to registration.

6010. Seminar in Business Administration. 3 hours. Covers one or more special fields. May be repeated for credit, and two or more sections may be taken concurrently.

6650. Seminar in Man-Machine Studies. 3 hours. The study of computer information systems in the context of their interaction with human users, including an examination of how the human user makes decisions and is supported or inhibited in that task by the orientation and design of information systems.

6660. Comparative Information Systems Theory. 3 hours. Comparative study of present theories with particular attention to the role of computer-based information systems in the organizational policy of business, government and other institutions. Prerequisite(s): consent of department. May be repeated for credit.

6670. Topics in Information Systems. 3 hours. Topics of historical, current and future relevance in the design, development, installation and management of computer-based information systems are examined using readings, case studies and lectures. Prerequisite(s): consent of department. May be repeated for credit.

6900. Special Problems. 1–3 hours. Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs, accompanied by conferences with professors in fields involved. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Programs Office prior to registration.

6910. Special Problems. 1–12 hours. Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs, accompanied by conferences with professors in field involved. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Programs Office prior to registration.

6940. Individual Research. 1–12 hours. Individual research for the doctoral candidate. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Programs Office prior to registration.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Programs Office prior to registration.

Decision Science, DSCI

5010. Statistical Analysis. 1.5 hours. Basic descriptive and inferential statistics; includes frequency distributions, averages, dispersions, index numbers, time-series analysis, probability, theoretical distributions, sampling distribution, estimation, tests of significance, chi-square, regression and correlation, analysis of variance and sample design. Prerequisite(s): MATH 1190 or equivalent. This course meets the deficiency requirement of statistics (DSCI 2710 and 3710) for MBA candidates, and may be counted as part of a graduate program in a field other than business administration.

5180. Introduction to Decision Making. 3 hours. Emphasis on model assumptions, applying the correct statistical model and interpreting the results. Topics include simple regression, multiple regression (e.g., qualitative variable coding, model building) and experimental design (e.g., completely randomized design, randomized block design, multi-factor designs). Prerequisite(s): DSCI 5010 or equivalent.

5210. Model-Based Decision Making. 3 hours. Explains how model-based decision support systems aid managerial decision processes. Attention will be paid to the how and why such a model is used in a support system environment. Course topics include the use of mathematical, statistical and business models that are embedded in decision support systems for dealing with both structured and semi-structured decision problems. Students identify opportunities and problems for which the use of modeling will enhance a decision maker's chance of success. Different type of models and decision structuring techniques will be compared and

contrasted, and appropriate techniques will be illustrated to analyze real-life situations. Prerequisite(s): DSCI 5010 or equivalent.

5220. Statistical Sampling. 3 hours. Introduction to sampling theory and applications. Attention is focused on major survey sampling techniques, including cluster, ratio, stratified and simple random sampling. Principal concepts and methods of acceptance sampling that are useful in quality control are presented, including operating characteristic curves, and single, double and sequential sampling plans for attributes and variables. Prerequisite(s): DSCI 5180 or consent of department.

5230. Non-Parametric Statistics for Business Research. 3 hours. Analysis of business research data that is categorical or ordinal (ranked or scaled) and is therefore not suitable for computations such as means and standard deviations. Topics include measurements of consumer preferences, market segmentation, labor or job grades, racial and sex classifications, and exempt characteristics and performance ratings. Single and multiple sample techniques are discussed. Prerequisite(s): DSCI 5010 or equivalent, or consent of department.

5240. Data-Based Decision Systems. 3 hours. A survey of time-series analysis techniques is presented. Topics include smoothing techniques and Box-Jenkins methodology. Prerequisite(s): DSCI 5180 or consent of department.

5250. Statistical Techniques in Simulation. 3 hours. An examination of construction and use of simulation models in business. Random number and process generators, construction of simulation models, introduction to special purpose simulation languages and research project. Prerequisite(s): DSCI 5010 or consent of department.

5260. Problem Solving and Decision-Making Process. 3 hours. Development of analytical techniques essential to effective solution of problems involving risk and uncertainty; integrative and unified treatment of classical Bayesian and normative decision theory as conceptual foundations for the development of decision techniques. Prerequisite(s): student must be within 9 hours of graduation.

5320. Quality Control. 3 hours. Broad coverage of managerial and statistical aspects of quality control, including quality assurance and quality management. Topic coverage includes problem solving tools, process capability assessment, control charts for variables, control charts for attributes and advanced control chart methods. Prerequisite(s): DSCI 5010 or consent of department.

5900-5910. Special Problems. 1–3 hours each. Open to graduate students who are capable of developing a problem independently. Problem chosen by the student and developed through conferences and activities under the direction of the instructor. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Programs Office prior to registration.

Management Science, MSCI

6000. Theory and Application of Nonparametric Statistics. 3 hours. Analysis of business research data that is categorical or ordinal (ranked or scaled). Topics include linear rank statistics, test of location for single and multiple sample problems, goodness-of-fit tests, measures of association, related samples tests and independent samples tests, rank tests for ordered alternatives and permutation tests. Prerequisite(s): DSCI 5180 or equivalent.

6010. Seminar in Business Administration. 3 hours. Covers one or more special fields. May be repeated for credit, and two or more sections may be taken concurrently.

6710. Theory and Application of Stochastic Modeling. 3 hours. Probabilistic modeling techniques with emphasis on manufacturing and services. Specific topics covered include inventory theory and methods, scheduling, queuing theory, availability, maintainability, repairability, reliability, Markov processes and renewal theory. Prerequisite(s): DSCI 5180.

6720. Experimental Design and Statistical Modeling. 3 hours. Emphasis is focused on both the design and analysis aspects of planned experimentation. Topics include completely randomized designs, block designs, factorial designs, design resolution and fractional factorial designs, response surface analysis, evolutionary operations in process improvement and Taguchi methods. Prerequisite(s): DSCI 5180.

6740. Theory and Applications of Operations Research. 3 hours. Introduction to the theoretical foundations of operation research techniques. Examples and exercises included with an application orientation. Designed to enhance one's understanding of mathematical basis of and research in operations research. Covers the two broad areas of deterministic and stochastic models in operation research. An understanding of basic calculus and matrix algebra is assumed. Prerequisite(s): DSCI 5210 or consent of department.

6750. Management Science Seminar. 3 hours. Organizational problems involved in the development and implementation of various management science models, as well as the applicability of the models to different technical problems in varying ecotechnological systems; in-depth study of areas of potential application of the more widely used management science models. Prerequisite(s): consent of department. May be repeated for credit.

6900. Special Problems. 1–3 hours. Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs, accompanied by conferences with professors in fields involved. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Programs Office prior to registration.

6910. Special Problems. 1–12 hours. Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs, accompanied by conferences with professors in field involved. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Programs Office prior to registration.

6940. Individual Research. 1-12 hours. Individual research for the doctoral candidate. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Programs Office prior to registration. May be repeated for credit.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. Prerequisite(s): approved applications for specific problems/independent research/dissertation credit must be submitted to the COBA Graduate Programs Office prior to registration. May be repeated for credit.

Insurance

see Risk Management and Insurance

International Studies

see *Undergraduate Catalog*

Italian

see *Undergraduate Catalog*

Japanese

see *Undergraduate Catalog*

Jazz Studies, Music

see Music

Journalism

Journalism, JOUR

5010. Reporting Practices. 3 hours. A concentrated study of the principles, practices and ethics of reporting and writing news under the pressure of deadlines to develop news judgment, craftsmanship and ability to handle complex news stories. Student work is subject to classroom analysis and criticism. This course prepares students lacking strong journalistic backgrounds for advanced professional courses and may be counted as part of a graduate program in fields other than journalism.

5020. Editing Practices. 3 hours. A concentrated study of the principles and practices of handling copy for print news media, including copy editing, headline writing, design and layout of newspapers and other printed materials, newspaper style, photo editing, the news wire services, and electronic and cabletext editing. Students receive practical experience in the functions of a copy editor. This course prepares students lacking strong journalistic backgrounds for advanced professional courses and may be counted as part of a graduate program in other fields. Prerequisite(s): JOUR 5010 or consent of department.

5030. Visual Journalism. 3 hours. Comprehensive look at visual communication theory, Gestalt design theory and applied uses of multimedia, particularly in online visual journalism. Activities include publishable projects on CD-ROM and for the web. Legal issues in producing multimedia packages, including copyright law, are addressed.

5040. Media Studies and Theories. 3 hours. This course is designed to introduce the students to enduring issues and problems of American mass media and to the body of knowledge concerning theories on the function, nature, audience and effects of mass communication. The course examines mass communication as a social system and the contributions of social scientists to the study of mass communication by putting emphasis on political, economic, technological, legal and historical factors that have shaped American mass media. Prerequisite(s): consent of department.

5050. Readings in Mass Communication. 3 hours. Study of leading bibliographical tools in mass communication, reading of biographies and analysis of the field. Chief aim of the course is becoming acquainted with a large number of books related to mass communication. Three hours per week given to book reports.

5100. Case Problems in Public Relations. 3 hours. Study of public relations trends and principles and how they relate to cases involving organizations and institutions in the profit and non-profit sectors. Attention to the use of proper public relations tools in meeting the needs of each organization's public.

5150. International Mass Communication. 3 hours. Study of mass communication media throughout the world, with special attention to press and broadcast systems, the sources and flow of international news, and problems of world communication. Course is 50 percent web-based when offered in the summer term. (Same as RTVF 5460.)

5200. Public Opinion and Propaganda. 3 hours. Public opinion and its role in modern society. The significance of propaganda in politics and war during the current century.

5210. Race, Gender and the Media. 3 hours. Interdisciplinary readings seminar examining how social constructions of ethnicity and gender are involved in the production, distribution and consumption of the mass media in the United States. Course lectures, assigned readings, diversity interviews, family genograms and a term research project comprise the basis for graded work.

5250. Research Methods I (Quantitative). 3 hours. Quantitative study of audiences, contents and effects in mass communication by using tools and techniques of social science research. Emphasis on statistical analysis, survey research, content analysis and experimental studies.

5260. Research Methods II (Qualitative). 3 hours. Study of the foundations, research methods, practices, theoretical approaches to qualitative research. These methods and approaches include ethnography, literary theory, rhetorical analysis, discourse analysis, gender and race theories, phenomenology, semiotics and others as applied to journalism. Students practice designing well-focused studies, as well as engaging in research practices related to the media.

5270. Advanced Reporting Techniques. 3 hours. Equips current and future journalists with the skills to do responsible reporting that includes getting information that is often difficult to obtain from government and private sources. This hands-on advanced reporting class focuses on "sunshine laws" and other freedom of information laws that are helpful in obtaining information legally available to the public; mining online databases of public records that pertain to stories journalists pursue for the public's need to know about the institutions, public figures and other entities that affect our daily lives. Prerequisite(s): consent of department.

5280. Media Management. 3 hours. Explores the various skills and resources required to lead and manage effectively in newspaper, magazine, public relations and advertising organizations. Case studies and guest speakers with specific expertise are included to illustrate various principles and concepts throughout the course. Prerequisite(s): consent of department.

5290. Science and Environmental Reporting. 3 hours. Explores science and environmental reporting as a valuable newsroom specialty blending science, politics, public health and business to encourage public discussion, to educate and to contribute to a public understanding of these challenging problems. Discusses aspects of television, radio and print reporting. Emphasis is on content and storytelling, not basic news writing. Prerequisite(s): reporting experience or JOUR 5010 and 5020.

5300. Theories of Mass Communication. 3 hours. Theoretical approaches to communication; examination of the developing literature in this field, including the contributions of social scientists and others; special problems in communications research.

5310. Media Ethics. 3 hours. Promotes the development of critical thinking and reasoning skills necessary in the mass and hyper media. It examines the relationship between professional ethics and social philosophy and between media practice and a democratic society. Course is 50 percent web-based when offered in the summer term.

5320. New Technologies of Mass Communication. 3 hours. Theoretical and practical approaches to new technologies. Build and maintain weblogs (or "blogs"); analyze existing, mature blogs; discuss theories relating to internet discourse of all sorts. Explores new technologies from the professional perspectives of working journalists and scrutinizes these same technologies from the perspectives of cultural critics who see not only a technology's utility, but also its impact on society, its workers and its media content. Study of communications technology from historical perspectives in order to learn the broader lessons of intervention and diffusion; utopianism and dystopianism; literacy, orality (second orality) and electricity; identity, property, politics, economics; and other issues. Prerequisite(s): consent of department.

5350. Seminar in Journalism and Mass Communication. 3 hours. Extensive readings, analysis and discussion of significant topics not covered by course offerings. Topics include impact of new technology on the mass media, ethical problems in the mass media, economic problems in media development. Prerequisite(s): consent of department. May be repeated for credit as topics vary.

5360. Religion Journalism. 3 hours. Using readings, discussion and story assignments, this course is designed to teach the background knowledge and skills necessary to competently report on religion or religious elements in society. Prerequisite(s): consent of department.

5370. Criticism of Mass Media. 3 hours. Facilitates thought and discussion about some of the major issues facing contemporary mass media, their messages, their audiences and the industry.

5380. Religion in Media and Culture. 3 hours. Study of religion and religious or spiritual expression as it is carried and conveyed through mass media and the broader culture. Through class discussion, research papers and a media portfolio presentation, the students develop theoretical frames through which to examine concrete examples of religious expression in secular media and society.

5500. Integrated Communications. 3 hours. Teaches students how to design the strategic planning of a comprehensive communications plan that evaluates the roles of a variety of disciplines including advertising, direct response, public relations and promotions. Such tactics are shown to provide clarity, consistency and maximum efficiency in all communication programs. Prerequisite(s): consent of department.

5510. Direct Response. 3 hours. Provides a review of general principles of direct response as introduced in undergraduate and graduate courses; develops a working understanding of the applications of direct response principles and practices to all functions of the communications field; helps each student understand, question and accept the general subject of direct response, utilizes true-life examples, develops an awareness of the new technology available to everyone who might use direct response techniques or want to work in the industry. Prerequisite(s): consent of department.

5800. Professional Internship. 3 hours. Practical experience in areas of journalism through an arranged internship under the instruction and supervision of the major professor and a designated professional of the office involved. Different sections scheduled for each of the following internships: advertising, news-editorial, photojournalism and public relations. Prerequisite(s): consent of department. Normally, no more than 3 hours may apply toward the master's degree.

5900-5910. Advanced Problems in Journalism. 1-3 hours each. Maximum of 6 hours credit. Individual investigations of current problems in such areas as ethics of mass communication, reporting, editing, international communication, newspaper or magazine publishing, advertising, photojournalism and journalism education.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

Kinesiology

see Kinesiology, Health Promotion and Recreation

Kinesiology/Health Promotion

see Kinesiology, Health Promotion and Recreation

Kinesiology, Health Promotion and Recreation

Health Promotion, HLTH

5100. Research Perspectives in Kinesiology, Health Promotion and Recreation. 3 hours. Research techniques and their application to the research process in kinesiology, health promotion and recreation. (Same as KINE 5100 and RECR 5100.)

5110. Critical Analysis of Professional Literature. 3 hours. Analysis and philosophical criticism of the literature in the student's major area and other related fields. Extensive reading assignments and discussion of published and unpublished research.

5131. Exercise and Health Psychology. 3 hours. Introduces students to health, leisure and exercise behavior change strategies, and provides knowledge and skills necessary to improve the initiation and adherence of lifetime health and physical activity behaviors among individuals and groups. Offers a comprehensive inquiry into individual behaviors and lifestyles that affect physical and mental health from health promotion, exercise science and psychological perspectives. Topics include enhancement of health, identification of health risk factors, prevention and treatment of disease, improvement of the health care system and shaping of public opinion with regard to health and physical activity. Prerequisite(s): a course in sport psychology or consent of department. (Same as KINE 5131 and PSYC 5131.)

5170. Critical Health Issues. 3 hours. Health aspects and health promotion implications of current health issues. Exploration of health problems currently found in society; role of health educators in terms of preparation, planning, instruction and evaluation. May be repeated for maximum of 6 hours credit.

5290. Human Sexuality Education. 3 hours. Basic human aspects that influence the development of the individual's total sexuality. The philosophy, content, methods, resources and evaluation that relate specifically to the teaching of human sexuality.

5300. Health Promotion: Advanced Concepts and Theories. 3 hours. An analysis of the growing body of knowledge concerning health promotion and education. Concepts of theory, research and practice are discussed, analyzed and used as a framework for investigative study.

5310-5320. Health Promotion Workshop. 3 hours each. A workshop for teachers, nurses, principals, superintendents and community leaders with opportunities to concentrate on individual and group problems. Activities based upon the problems, needs and interests of participants. Consultants from most areas of health are utilized. HLTH 5320 is taken in conjunction with HLTH 5310.

5500. Advanced Concepts in Epidemiology. 3 hours. Examines the meaning and scope of epidemiological principles, methods and strategies, and the use of morbidity, mortality and other vital statistics data in the scientific appraisal of community health. An understanding of the study, nature, prevention and control of communicable and non-communicable diseases. Prerequisite(s): HLTH 4100 or equivalent, or consent of department.

5510. Stress Management for the Health Professional. 3 hours. This course identifies environmental, organizational, interpersonal and individual patterns of stress with reference to the role of the health professional. Prevention and intervention strategies are emphasized. (Same as KINE 5510.)

5600. Health Promotion in a Multicultural Context. 3 hours. This course is designed to explore ethnic and cultural factors influencing disease prevention and health promotion among ethnic-cultural groups. Students will be able to design, implement and evaluate health promotion programs targeting multiethnic and multicultural groups.

5800. Studies in Health Promotion. 1-3 hours. Organized classes to satisfy program needs. Prerequisite(s): consent of department. Limited-offering basis; may be repeated for credit.

5850. Graduate Internship. 3 hours. A graduate internship affiliated with an approved community health promotion agency. Emphasis is on application of knowledge and skills to job roles, professional responsibilities, and program development and evaluation. The internship will involve a minimum of 320 consecutive hours to be completed within a term/semester. Prerequisite(s): completion of a minimum of 18 graduate hours in health promotion. Required of all graduate students without a minimum of 1 year experience in a community health agency.

5900-5910. Special Problems. 1-3 hours each. Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and developed through conferences with the instructor.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

Kinesiology, KINE

5000. Supervision in Kinesiology. 3 hours. Principles of organization and administration for the supervision of kinesiology programs.

5020. Aging and Movement Control. 3 hours. An examination of the physical, behavioral and psychological aspects of aging and how these changes affect movement and movement control processes.

- 5030. Life-span Motor Development.** 3 hours. Explanation of changes in human motor patterns across the life span with emphasis on internal and external factors that relate to these changes. Issues, theories and research design problems are presented.
- 5050. Administration and Supervision of Recreation and Sport.** 3 hours. Principles and procedures involved in the administration and supervision of recreation and sport. (Same as RECR 5050.)
- 5060. Areas and Facilities for Recreation and Sport.** 3 hours. Design, construction and maintenance of recreation and sport areas and facilities. (Same as RECR 5060.)
- 5090. Motor Behavior.** 3 hours. An examination of the major behavioral processes and control mechanics underlying the learning and performance of motor skills. Principles in motor learning, motor behavior and motor control are systematically presented within a conceptual framework focusing on motor behavior and control theories, information processing, feedback, condition of practice, transfer, individual differences and life-cycle changes.
- 5100. Research Perspectives in Kinesiology, Health Promotion and Recreation.** 3 hours. Research techniques and their application to the research process in kinesiology, health promotion and recreation. (Same as HLTH 5100 and RECR 5100.)
- 5121. Sport and Exercise Psychology.** 3 hours. Survey of the application of the science of psychology in sport and exercise settings. Topics include motivation, mental preparation strategies, arousal-performance relationship, exercise adherence, exercise and mental health. (Same as PSYC 5121.)
- 5131. Exercise and Health Psychology.** 3 hours. Introduces students to health, leisure and exercise behavior change strategies, and provides knowledge and skills necessary to improve the initiation and adherence of lifetime health and physical activity behaviors among individuals and groups. Offers a comprehensive inquiry into individual behaviors and lifestyles that affect physical and mental health from health promotion, exercise science and psychological perspectives. Topics include enhancement of health, identification of health risk factors, prevention and treatment of disease, improvement of the health care system and shaping of public opinion with regard to health and physical activity. Prerequisite(s): a course in sport psychology or consent of department. (Same as HLTH 5131 and PSYC 5131.)
- 5140. Women, Leisure and Sport.** 3 hours. Using historical, psychological, sociological and feminist perspectives as a framework, critical issues surrounding women, leisure and sport are presented. Focuses on women as consumers of leisure and sport experiences and on the social changes that are needed to expand and enhance their leisure and sport opportunities. (Same as RECR 5140.)
- 5150. Quantitative Procedures in Exercise and Sport Sciences.** 3 hours. An in-depth study of analysis techniques necessary for scientific investigations in exercise and sport. Emphasis is placed on computer applications, advanced data analysis, techniques and interpretation of resulting analyses. Prerequisite(s): KINE 5100 or equivalent.
- 5160. Sports in American Culture.** 3 hours. Role of sports and games in the American culture; their contributions to human welfare; implications of sports in a social order; personalities, institutions and cultural factors as they influence origin and development of sports and games.
- 5171. Social Psychology of Sport.** 3 hours. The effects of social psychological variables on motor behavior. Topics include social facilitation, social reinforcement, organized youth sports, socialization, group dynamics and leadership. (Same as PSYC 5171.)
- 5181. Applied Sport Psychology.** 3 hours. Psychological techniques and strategies for enhancing athletic performance, including imagery, arousal regulation, attentional control, goal setting and self-talk. Practical issues, ethical considerations and coach-athlete-organization interface are addressed. Prerequisite(s): KINE 5121. (Same as PSYC 5181.)
- 5190. Neuromuscular Physiology of Exercise.** 3 hours. An examination of the subcellular and macrocellular responses of the neuromuscular system to acute and chronic exposure to exercise. Special emphasis is given to the diagnostic and rehabilitative aspects of corrective exercise therapy as part of the health-care delivery system. Prerequisite(s): a course in exercise physiology or consent of department.
- 5200. Cardiovascular Physiology of Exercise.** 3 hours. A study of the cardiovascular responses of normal and patient populations to acute and chronic bouts of exercise. Particular emphasis is given to the use of exercise as a treatment modality for cardiac- and pulmonary-impaired patients in a clinical environment. Prerequisite(s): a course in exercise physiology or consent of department.
- 5210. Administration Issues and Problems in Kinesiology.** 3 hours. Analysis of issues and problems in administering programs in kinesiology.
- 5230. Professional Preparation in Kinesiology.** 3 hours. Historical development of professional preparation in kinesiology and current guidelines for programs.
- 5290. Current Topics in Exercise Physiology.** 3 hours. Current research topics and laboratory techniques with instrumentation to promote currency of thought and measurement technology in the areas of exercise physiology. May be repeated for a maximum of 6 hours credit.
- 5301. Physiology of Exercise.** 3 hours. Functional responses of the human body during movement; emphasis on elementary principles and basic research underlying a sound, safe and healthy exercise regimen.
- 5310. Exercise and Fitness for Special Populations.** 3 hours. Needs, limitations and program modification for special populations in fitness-related environments. Etiology, pathophysiology and exercise prescription for prevalent disorders.
- 5340. Biomechanics of Sports Skills.** 3 hours. Identification of the mechanical factors contributing to selected sports performances with qualitative analysis of skill objectives and contributing performance factors.
- 5390. Physiological Assessment in the Health Sciences.** 3 hours. Evaluation of assessment techniques used in exercise physiology and health/fitness disciplines, including fitness assessment of working capacity, biochemical assays, advanced metabolic assessment, flexibility assessment and strength assessment. Prerequisite(s): a course in exercise physiology or consent of department.
- 5400. Clinical Application of Exercise Physiology.** 3 hours. Techniques of exercise prescription and cardiac evaluation in patients with coronary artery disease, including practical experience in a cardiac rehabilitation program and clinical exercise laboratory. Prerequisite(s): a course in exercise physiology or consent of department.

5410. Sport/Fitness Organization Management. 3 hours. Analysis of theoretical orientations to management functions in sport/fitness organizations. Current research and applications of theoretical orientations will be directed toward personnel, communication and marketing activities in sport/fitness enterprises.

5420. Facilities and Equipment in Kinesiology. 3 hours. Design, use and maintenance of facilities in kinesiology and sport enterprises.

5430. Legal Aspects of Kinesiology. 3 hours. Analysis of the legal elements and responsibilities in kinesiology and sport management. Emphasis is placed on recognizing and solving legal problems in kinesiology and sport management.

5450. Implementing Health/Fitness Programs. 3 hours. Strategies, procedures and resources used in implementing health/fitness programs in corporate, commercial and clinical settings.

5460. Sports Administration. 3 hours. Designed for students seeking practical insight into the application of principles and the use of methods and techniques in administering sports programs in schools and colleges; community, club and industrial recreation programs; or professional sports organizations.

5470. Special Topics in Health Fitness. 3 hours. Focus on the health fitness industry, including current topics in areas such as health and fitness assessment, facility and equipment innovations, program implementation, client management and business management.

5510. Stress Management for the Health Professional. 3 hours. This course identifies environmental, organizational, interpersonal and individual patterns of stress with reference to the role of the health professional. Prevention and intervention strategies are emphasized. (Same as HLTH 5510.)

5700. Curriculum and Methods in Kinesiology and Health Promotion. 3 hours. Knowledge, techniques and skills for teaching in kinesiology and health. Practice teaching provides opportunities for application of principles and techniques presented in the course. Objectives within the Texas Essential Knowledge and Skills (TEKS) are used as the basis for the selection, organization and presentation of subject matter in kinesiology-physical education and health. Prerequisite(s): consent of department.

5800. Studies in Kinesiology. 1–3 hours. Short courses, workshops and fully organized classes to meet new and specialized demands in kinesiology not met by the regular offerings. May be repeated for credit.

5850. Sport and Exercise Psychology Practicum. 1–3 hours. Supervised active participation in sport and exercise psychology activities within a sport or health-related agency/organization. Prerequisite(s): consent of the department.

5860. Practicum, Field Problem or Internship. 1–6 hours. Supervised professional activities and experiences. May be repeated for credit.

5900-5910. Special Problems. 1–3 hours each. Open to graduate students capable of developing a problem independently. Problems chosen by the student and developed through conferences with the instructor or major professor.

5920. Research Problems in Lieu of Thesis. 3 hours. Research dealing with significant problems in physical education.

5940. Current Topics in Kinesiology. 3 hours. Designated capstone course to provide a culminating experience for students majoring in kinesiology.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

Kinesiology/Health Promotion, KHPM

5105-5115. Advanced Practicum I & II. 3 hours each. Field-based courses for participants in the kinesiology or health promotion post-baccalaureate teacher certification program. Participants are to be employed as “teacher of record” within a K–12 physical education or health program and might also have been granted one-year Probationary Certificates. Content of the practicum series emphasizes application of pedagogical content knowledge in physical education or health. It is expected that participants will research, plan, present and assess instructional activities in a way that demonstrates a high level of personal competency. Prerequisite(s): consent of department.

Physical Education – see Undergraduate Catalog

Recreation and Leisure Studies, RECR

5010. Perspectives in Leisure. 3 hours. Employs the seminar format in enabling the student to develop a sound conceptualization of leisure services and achieve an insightful, functional understanding of recreation and leisure in our contemporary society through a number of perspectives, including historical, philosophical, sociological, psychological and administrative.

5050. Administration and Supervision of Recreation and Sport. 3 hours. Principles and procedures involved in the administration and supervision of recreation and sport. (Same as KINE 5050.)

5060. Areas and Facilities for Recreation and Sport. 3 hours. Design, construction and maintenance of recreation and sport areas and facilities. (Same as KINE 5060.)

5070. Psychosociological Dynamics of Leisure Behavior. 3 hours. An examination of the psychosociological dynamics of leisure behavior.

5080. Recreation Program Design. 3 hours. Theory and techniques for developing programmed recreation experiences. Topics include the program development cycle, marketing leisure services, the case study approach to program analysis, program design and planning, applying creativity to the program design process and program supervision and evaluation.

5100. Research Perspectives in Kinesiology, Health Promotion and Recreation. 3 hours. Research techniques and their application to the research process in kinesiology, health promotion and recreation. (Same as HLTH 5100 and KINE 5100.)

5110. Critical Analysis of Professional Literature. 3 hours. Analysis and philosophical criticism of the literature in the student's major area and other related fields. Extensive reading assignments and discussion of published and unpublished research.

5120. Concepts in Therapeutic Recreation. 3 hours. Study of the characteristics of illness and disease, including etiology, treatment procedures, functional disabilities and psychosocial adjustment, as they affect leisure participation. Overview of social and environmental elements that contribute to successful leisure functioning of individuals with disabling conditions.

5130. Principles of Therapeutic Recreation. 3 hours. Principles and techniques in the delivery of recreation services for special populations. Includes theoretical bases for therapeutic recreation services, as well as practical guidelines for the provision of such services.

5140. Women, Leisure and Sport. 3 hours. Using historical, psychological, sociological and feminist perspectives as a framework, critical issues surrounding women, leisure and sport are presented. Focuses on women as consumers of leisure and sport experiences and on the social changes that are needed to expand and enhance their leisure and sport opportunities. (Same as KINE 5140.)

5200. Dynamics of Commercial Recreation and Tourism. 3 hours. The origins, characteristics and societal impacts of commercial recreation and tourism. Examination of behavioral factors influencing participation, management considerations and research in commercial recreation and tourism. Local field trips required.

5800. Studies in Recreation. 1–3 hours. Organized classes specifically designed to accommodate the needs of students and the demands of program development that are not met by the regular offerings. Short courses and workshops on specific topics are organized on a limited-offering basis, to be repeated only upon demand. May be repeated for credit.

5850. Proseminar in Leisure Services Management. 3 hours. Concepts, research, analytical methods and literature drawn from the leading scholars in the various areas of the field.

5860. Practicum in Leisure Services. 3 hours. Supervised professional activities and experiences.

5870. Trends and Issues in Therapeutic Recreation. 3 hours. Concepts, research, analytical methods and literature drawn from the leading scholars in the various areas of the field to focus on current trends and issues in therapeutic recreation.

5900-5910. Special Problems. 1–3 hours each. Open to graduate students who are capable of developing a problem independently. Problems are chosen by the student and developed through conferences with the instructor.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

Language

see Foreign Languages and Literatures

Latin

see *Undergraduate Catalog*

Library and Information Sciences

Students interested in a particular course during a particular period should inquire in advance. Other relevant courses are available at UNT and through cross-registration at other schools within the Federation of North Texas Area Universities. School advising approval is required for course enrollment.

Library and Information Sciences, SLIS

5000. Introduction to Information Professions. 1 hour. History, roles and scope of the information professions. Basic concepts and issues including impact of information technology on the individual, intellectual freedom, privacy and diversity. Course activities emphasizing team building and leadership skills.

5001. School Librarianship. 3 hours. Introduction to school librarianship with an overview of the profession including the library media specialist as an information specialist, as teacher, as consultant and as program manager. The course includes discussion topics, introduction seeking skills and selection tools.

5020. Economics of Information. 3 hours. Information as an economic good and resource. Equity and distribution of information as public good and as a commodity. Economics of the information industry. Supply and demand of information and its pricing. Micro- and macro-economic information indication and studies in national economics.

5030. Seminar in Foundations, Trends and Perspectives. 3 hours. Foundation topics in library and information sciences. Special perspectives and aspects within the field and related areas. Background developments and social contexts. Major trends, issues and problems of present and historical interest. Individual investigations of special aspects and topics. May be repeated for credit as topics vary.

5040. Information Behavior. 3 hours. Human cognitive behavior in seeking, searching for, browsing, evaluating and using information. Concepts and contexts of types of knowledge and information need. Professional methods for and practice in user needs assessment, user profiling and mediation processes for purposes of developing user-centered information systems and services.

5050. Trends and Practices in School Librarianship. 3 hours. Overview of seminal documents of the school library profession including the Library Media Specialist as information specialist, as teacher and as consultant. Course objectives include serving effectively as an information specialist; applying sound managerial principles; developing and maintaining a collection; understanding legal and ethical issues; understanding how to integrate the library media program; appreciating human diversity; understanding how to work collaboratively. Prerequisite(s): SLIS 5208, 5340, 5420, 5430 and 5720.

5070. Development of Libraries, Publishing and Communication Media. 3 hours. Historical backgrounds and growth of modern libraries and information centers. Related development of printing, publishing and communication media. Social, cultural and technological dimensions. Focus on topics and problems of continuing interest and contemporary significance.

5080. Research Methods and Analysis. 3 hours. Principles, techniques and areas of research. Basic research designs and measurement problems. Evaluation of representative studies. Quantitative methods and applications.

5081. Research Design and Analysis. 3 hours. Multifactor designs and problems in experimental, survey and documentary research. Measurement, testing and index construction. Multivariate and regression analysis. Problems in causal inference and generalization. Prerequisite(s): SLIS 5080, or consent of school.

5082. Seminar in Research and Research Methodology. 3 or 6 hours. Special topics in research methodology. Research proposal development. Directed research study. May be repeated for credit as topics vary.

5090. Practicum and Field Study. 3 hours. Supervised practice work and field study (120 clock hours minimum) in a cooperating library, learning resources center or information agency, plus seminar conferences and summary report. For students without prior field experience. Prerequisite(s): admission to candidacy, application for practicum early in prior terms/semester or appropriate administration course or type-of-system course (may be taken concurrently). Not counted for degree credit. Pass/no pass only.

5095. Cooperative Education. 3 hours. Supervised work in a job related to student's career objective. Prerequisite(s): consent of the practicum director and the cooperative education department. Pass/no pass only; cannot be used for degree credit.

5200. Introduction to Information Organization. 4 hours. Principles, concepts and practices of information organization and presentation. Concepts and problems of human information behavior, classification and categorization related to information organization. Database technology, structure and design. Standards for information organization, data representation and information exchange. Systems for organizing information and facilitating information access in various information use environments.

5205. Information Indexing, Abstracting and Retrieval. 3 hours. Analysis of indexing and retrieval systems. Manual and machine indexing and abstracting. Computer-based systems. File organization and maintenance; information representation and coding; storage and retrieval technology; natural language processing; thesaurus construction; searching strategies. Systems design, operation and evaluation. Corequisite(s): SLIS 5200 or 5210 and 5710, or consent of school.

5206. Information Retrieval Design. 3 hours. Study of design considerations in computer-based information retrieval systems, including conventional inverted file systems using Boolean logic and automatically indexed vector-oriented systems. Evaluation of information systems in the light of user and system criteria. Prerequisite(s): SLIS 5200 or consent of school.

5208. Learning Resources Organization and Media. 3 hours. Organization of print and non-print collections, including descriptive cataloging, Anglo-American Cataloging Rules, Dewey Decimal Classification, Library of Congress and Sears Subject Headings and MARC records. Media and media services, including media services to special populations. Library automation systems and their management.

5210. Organization and Control of Information Resources I. 3 hours. Descriptive cataloging and subject analysis of different kinds of information resources. Anglo-American Cataloging Rules; Dewey Decimal and Library of Congress classification systems; vocabulary control; subject headings; principles and techniques of catalog construction, maintenance and use; information indexing and retrieval; use of online databases; representative research, problems and practice. Prerequisite(s): SLIS 5200 or consent of school.

5220. Organization and Control of Information Resources II. 3 hours. Development of cataloging and classification systems. Problems in classification and subject headings. Thesaurus

construction and special classification systems. Treatment of serial publications, audiovisual resources and other special materials. Use of online databases. Prerequisite(s): SLIS 5210 or consent of school.

5223. Metadata and Networked Information Organization/Retrieval. 3 hours. Representation, organization and retrieval of networked information resources (NIR) using various forms of metadata. Examination and evaluation of key metadata schemes for representing and organizing NIR. Identification and use of metadata creation tools to build and manage metadata repositories. Explore implications for retrieval of NIR through search engines that exploit metadata. Prerequisite(s): SLIS 5200 or consent of school.

5225. Serial Publications and Serial Records Management. 3 hours. Serial publications and the tools useful in their control. Acquisition, processing, cataloging, housing, servicing and use of serials. Serial records management; online systems; administration of serials departments; management of serials collections. Prerequisite(s): SLIS 5210 or consent of school.

5230. Records Management. 3 hours. Operations in preparation, dissemination, organization, storing and retrieval with emphasis on records control and utilization. Preservation and security problems; retention, transfer and disposal. Planning and supervising records management programs. Departmental functions and organization. Data-processing applications and online systems.

5290. Special Collections and Archives. 3 hours. Selection, acquisition, preservation and use of special materials of all kinds, including special subject and form materials, rare materials and manuscripts, archival materials and other materials requiring special control and handling. Organization and administration of special collections and archives.

5295. Preservation. 3 hours. Introduction to preservation management and techniques. Lectures and discussions of management practices, including stack management, collection development decisions and disaster preparedness. Laboratory work, including identification of book structures and hands-on experience with such basic preservation techniques as paper cleaning, paper mending and protective housing.

5300. Management of Information Agencies. 3 hours. Management principles and practices. Problem-solving, public relations and program development. Libraries and information centers and their social and political context. Coping with change. Facilities and equipment. Representative research and data analysis.

5302. Advanced Management of Information Agencies. 3 hours. Advanced topics in administration of different types of libraries, information systems and related agencies; planning and program development; personnel and financial management; legal problems and political relations; problem-solving and decision making; project and systems management; funding and support; issues and trends. Individual investigation of selected problems. Prerequisite(s): SLIS 5300 or consent of school.

5303. Financial and Human Resource Management in Information Agencies. 3 hours. Problems and topics in personnel and financial management. Recruitment, training and supervision. Work environments; position and staff evaluation; wage and salary management; collective bargaining; funding; budgeting and accounting systems; expenditure and income control; audits; inventory control; insurance. Current trends and case studies of common problems. Prerequisite(s): SLIS 5300 or consent of school.

- 5305. Systems Analysis and Design.** 3 hours. Tools and techniques of systems analysis, design and evaluation. Relationship of design to program planning and services. System objectives and performance; system development; effectiveness and efficiency measures; cost analysis; operations management and research.
- 5306. Project Management for Information Systems.** 3 hours. Managing the process of planning, developing, implementing and evaluating systems in libraries and information centers of all types and sizes. Planning, defining requirements, developing requests for proposals, evaluating alternative systems, and locating and hiring consultants.
- 5320. Public Libraries.** 3 hours. Problems of organization and management of public libraries and urban/rural library systems; their resources, functions and services. Related municipal, regional and state information agencies and services. Federal and state programs; development and trends. Individual investigation of major issues and topics.
- 5330. Academic Libraries.** 3 hours. Problems of organization and management of university, college and community college libraries; their resources, functions and services. Federal and state programs; development and trends. Individual investigation of major issues and topics. Prerequisite(s): SLIS 5300 or consent of school.
- 5340. Learning Resources Centers and Services.** 3 hours. Role and functions of library/media centers in school, college and other settings. Problems of organization and management. Kinds of learning resources and services. Federal and state programs; development and trends. Individual investigation of major issues and topics.
- 5345. Library Operation and Policy Development.** 3 hours. Operational procedures for administrative supervision of school libraries, including acquisition, processing and maintenance of collections. Policy development within the context of the school community, including stakeholder assessment, policy preparation, legal implications and political impact of library operations.
- 5360. Special Libraries and Information Centers.** 3 hours. Study of selected types of special libraries, information systems and related organizations and their historical development, administration, resources, functions and services. Students are introduced to the problems of operating small libraries with unusual clientele, consulting and the development of new information centers.
- 5365. Health Sciences Information Management.** 3 hours. Development of health sciences libraries and information centers. Principles of management, staffing, budgeting and organization of various types of health sciences information systems. Technical processes and public services. Application of computer and information technology to health sciences library processes.
- 5366. Law Library Management.** 3 hours. Survey of the history and development, characteristics and distribution of law libraries in the United States. Role and function of law libraries or collections in academic, government or private institutional contexts. Problems of law library administration, including organization, personnel and financial management, library planning, marketing and evaluation. Study of tools for collection development, collection development plans and technical processes. Introduction to the profession of law librarianship.
- 5367. Music Libraries and Information Services.** 3 hours. Problems of organization and management of music libraries. Music reference sources and information services. Selection, acquisition, organization and use of music materials.
- 5369. Seminar in Special Types of Libraries and Information Systems.** 3 hours. Intensive study of selected types of special libraries, information systems and related organizations; their development, administration, resources, functions and services. Individual investigation of selected types of libraries and information systems, and of related issues and trends. May be repeated for credit as topics vary.
- 5390. Technical Services in Libraries and Information Centers.** 3 hours. The management of technical processes in libraries and information centers of all types and sizes: principles, processes and practices, issues, trends and research in such technical areas as acquisitions, cataloging, circulation, serials control, database maintenance, library security, reserve collections and materials preparation. Prerequisite(s): SLIS 5200 or consent of school.
- 5400. Information Resources Development.** 3 hours. Principles and methods of evaluating, selecting and acquiring different kinds of information resources. Development and maintenance of information collections. Bibliographic tools and online databases. Searching and verification; publishers and publishing; censorship issues; acquisition processes. Representative research, problems and practice.
- 5405. Advanced Information Resources Development.** 3 hours. Advanced study of current problems and practices in collection development and management, with emphasis on evaluation techniques and the development of cost-effective policies and procedures for maintaining collections. Individual investigation of selected problems and practices. Prerequisite(s): SLIS 5200 or consent of school.
- 5410. Adult Materials and Reading Interests.** 3 hours. Reading interests and behavior of adults, including younger and older adults. Selection and use of books and other materials for recreation and self-development. Adult programs and services, including reading guidance. Wide reading and use of literature and non-print materials in different fields.
- 5420. Literature for Youth.** 3 hours. Survey of literature and media, including multicultural and multiethnic materials. Wide reading and use of materials for children and young adults.
- 5425. Seminar in Trends and Issues in Literature for Children and Young Adults.** 3 hours. Identification and analysis of trends and current issues in literature for children and young adults; examination of issues raised in journal literature, including popular and scholarly publications; comparative analysis of current issues and their representation in recently published materials. Additional focus on issues and trends in literary presentations of selected ethnic and religious groups. Comparison of film treatment of works with their original literary presentation.
- 5430. Information Services for Youth.** 3 hours. Utilization practices and selection. Literature interests and guidance; curricular correlations and developmental needs. Extensive focus on either children or young adult programs and services.
- 5440. Storytelling for Information Professionals.** 3 hours. Storytelling ethnography, history, theory, methods and bibliographic resources. Story research, analysis, selection, adaptation and preparation. Oral performance development and audience dynamics. Program planning, implementation, evaluation and grant writing for schools, libraries or other information settings.
- 5445. History and Culture of Youth Information Services.** 3 hours. History of youth services librarianship. Theory and methods of ethnographic evaluation. Community assessment and interviews. Users and designers of youth information services and systems. Current trends.

5450. Rare Books. 3 hours. Introduction to principles and practices of rare book librarianship. Bibliography and its applications to identification and evaluation of rare materials. History of printing and illustration. Administration of rare book or special collections, including bibliographic and physical access, reference, evaluation techniques, cataloging, public relations and personnel.

5460. Publishing and Other Information Industries. 3 hours. Structure, characteristics and trends of contemporary publishing and other information industries. Editorial development, production, marketing and distribution of information materials and services. Legal and economic considerations. Some attention to international distribution of information. Individual investigation of selected problems.

5600. Introduction to Information Access and Retrieval. 4 hours. Epistemological foundations of information use. Basic principles and techniques of information retrieval and access services. Survey of research in information seeking behavior and user interaction. Introduction to systems of access, search and retrieval skills, and collection management. Study of evaluation methods for all formats of resources, services and user satisfaction.

5610. Advanced Information and Access Services. 3 hours. Advanced problems and techniques in information service, online and CD-ROM systems, and literature searching and synthesis. Prerequisite(s): SLIS 5600 or consent of school.

5611. Seminar in Information Services and Programs. 3 hours. Intensive study of selected types of information resources, services and programs for individuals and groups, such as reference and referral services, advisory and educational services, bibliotherapy and counseling, fee-based services and programs, research advisement and consulting, and storytelling and youth programs. Planning services and programs; issues and trends. Individual investigation of selected types of services and related problems. Prerequisite(s): consent of school. May be repeated for credit as topics vary.

5615. Electronic Databases and Information Services. 3 hours. Development and use of online information services. Study of available databases in different fields. Conducting online searches; client interviews; developing, promoting and evaluating online services; current trends. Supervised practical experience. Prerequisite(s): SLIS 5600 or consent of school.

5620. Information and Access Services in the Humanities. 3 hours. Information resources, methods, needs and services in the humanities. Comparative study of individual fields. Communication patterns and bibliographic organization. Role of professional organizations and government. Representative problems and practice. Prerequisite(s): SLIS 5600 or consent of school.

5630. Information and Access Services in Science and Technology. 3 hours. Information resources, methods, needs and services in science and technology. Comparative study of individual fields. Communication patterns and bibliographic organization. Role of professional organizations and government. Representative problems and practice. Prerequisite(s): SLIS 5600 or consent of school.

5637. Medical Informatics. 3 hours. History of medical information. Biomedical communication. Types of information resources and services related to the transfer of information in the health sciences. Computer applications to health sciences libraries. Analyses of current issues in the health care field and their relationship to health sciences libraries and information centers.

5640. Information and Access Services in the Social Sciences. 3 hours. Information resources, methods, needs and services in the social sciences. Comparative study of individual fields. Communication patterns and bibliographic organization. Role of professional organizations and government. Representative problems and practice. Prerequisite(s): SLIS 5600 or consent of school.

5646. Information and Access Services in Business. 3 hours. Introduction to information service for business as a discipline and in practice. Characteristics of information service to a specific, diverse user community. Introduction to and development of print and electronic forms of information relevant to the business community's information needs. Prerequisite(s): SLIS 5600 or consent of school.

5647. Legal Information and Access Services. 3 hours. An introduction to the bibliographic organization of legal literature and to techniques of legal research, including the use of automated legal research databases. Lectures, readings, seminar discussions and problem sets focus on U.S. legal materials, primarily using federal law publications as examples.

5650. Multimedia Resources and Services. 3 hours. Selection, organization and use of films, filmstrips, video recordings, phonorecords, microforms, pictures, maps, kits, regalia, vertical file items and other materials. Evaluation and development of media collections. Current developments in media and media services. Computer applications and reprography. Representative problems and supervised laboratory experience.

5660. Government Information and Access Services. 3 hours. Information resources and services of the United States government; their nature, use, acquisition and organization. Includes some study of the information resources and services of municipal and state governments, the United Nations and selected foreign countries. Prerequisite(s): SLIS 5600 or consent of school.

5670. Seminar in Information Resources and Services in Special Fields. 3 hours. Intensive study of resources and services in selected special fields. Problems in subject specialization. May be repeated for credit as topics vary.

5680. Seminar in Information Resources and Services for Special Clienteles. 3 hours. Intensive study of resources and services in selected special clientele and classes of users. Problems in client specialization. May be repeated for credit as topics vary.

5685. Information Resources and Services in Culturally Diverse Communities. 3 hours. Seminar in information resources and services for ethnic cultural minorities. Issues in the provision of information services to ethnic cultural minority communities. Study of the needs and cultural milieu of these communities. Materials and methods for serving these groups.

5690. Information Networks and Cooperative Systems. 3 hours. Role, functions and growth of cooperative systems and consortia; development of information networks; their services, legal bases, political setting, financing and management; issues and trends. Individual investigation of selected problems.

5707. Data Modeling for Information Professionals. 3 hours. Designed to meet the needs of the information industry for data modeling and database design for text and multimedia applications. Focus on the application of data modeling technologies to library and information science practice and research. Class projects provide hands-on experience in designing and implementing database systems for information service-oriented organizations such as libraries, museums, publishers and bookstores.

5710. Information Technology. 3 hours. Mechanisms of information processing, information transfer and applications of computers to library and information center functions. Policy issues relating to technology in information delivery. Includes application of the following technologies in libraries and information centers: major computer operating systems, database management systems, computer graphics, Internet resources, telecommunications, computer networking, etc. Not to be taken for master's credit toward library and information sciences degrees.

5711. Internet Applications, Services and Management for Information Professionals. 3 hours. The technology, applications, resources and service opportunities of the Internet and the networked environment. Development of awareness, understanding and knowledge of the Internet from the perspectives of technology, standards, content, organization, policy and users. Conceptual and practical aspects related to the development and management of networked applications, networked resources and networked services for use in information environments and information-based organizations.

5712. Horizon Technologies for Library and Information Centers. 3 hours. Students explore new and future information technology developments that are likely to have an impact on the delivery of information services in libraries and information centers. The nature of technological change, methods of forecasting and researching directions of change, social and organizational issues raised by new technologies and strategies for managing change are examined using readings, case studies and lectures.

5713. Telecommunications and Information Professionals. 3 hours. A foundation course concerned with digital and analog forms of electronic communications, design and performance of networks and their relationship to the provision of information services. Emphasis on management issues for libraries and information agencies.

5714. Web Content Development and Maintenance. 3 hours. Course is designed to meet the needs of government, education and industry for entry-level personnel capable of establishing a web site, composing text and graphic files for the site, identifying, writing and installing scripts for the site for interactive applications. Special attention is given to OSHA accessibility regulations.

5715. Topics in Digital Imaging for Information Professionals. 3 hours. Designed to provide each student in the digital image management program of study an opportunity to be involved with the production of digital images; the creation, maintenance and management of digital information databases; intellectual property and copyright issues; the use and management of advanced network and information technologies including web site design and maintenance; and the client markets of libraries, archives, information centers and museums. May be repeated for credit.

5716. Web Administration for Information Professionals. 3 hours. Course is designed to meet the need of the information industry for entry-level personnel capable of managing the content of numerous web sites on multiple platforms. Students ready and analyze access and security logs to report on server usage. Students gain practical knowledge of programming in a high-level computer language to complete these tasks. Although this course is not platform specific, students also acquire basic UNIX skills. Prerequisite(s): SLIS 5711 or consent of school.

5717. Dynamic WWW Control Structures. 3 hours. Designed to meet the need of the information industry for entry-level personnel capable of endowing web sites with interactive applications, with emphasis on string-handling, searching

and organization. Additionally, students work in teams to create and modify multimedia document sites utilizing image collections and document collections developed by the school in previous courses and sponsored projects.

5718. Agent Implementation and Control for Information Professionals. 3 hours. Designed to meet the need of government and industry for entry-level personnel capable of implementing and managing search agents and search robots for intranets and the internet in general. Management is characterized by the ability to build simple agents in Perl, JavaScript, etc.; to locate, install and modify web-based agents provided at various sites; and to edit and filter agent results through document classification and automated text processing. Additionally, students work in teams to create and modify sites utilizing collections developed by the school in previous courses and sponsored projects.

5720. Instructional Materials Production and Use. 3 hours. Role of instructional materials in media centers and settings of various types. Emphasizes instructional design and production techniques using different media and equipment, including computers. Supervised laboratory experience.

5730. Microcomputer Applications for Information Management. 3 hours. Use of microcomputers and applications software to meet library and information center needs. Focus on microcomputer problem-solving to apply appropriate hardware, communications, software and resource management concepts; operations and management of microcomputer use.

5750. Managing Library Automation Projects. 3 hours. Planning, acquisition, development and installation of computer-based systems in libraries of all types and sizes, oriented around activities necessary for effective library automation projects. Project planning; project approval and start-up; and planning and management of product and service procurement, development of system components, and system installation and maintenance.

5900-5910. Special Problems. 1–3 hours each. Supervised individual or small group study of special problems or topics not otherwise covered by regular course offerings. Prerequisite(s): consent of instructor and dean of school. May be repeated for credit as topics vary.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of school. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

5960-5970. Library and Information Sciences Institute or Seminar. 1–6 hours each. Special institute courses and seminars. Prerequisite(s): consent of school. May be repeated for credit as topics vary.

6000. Seminar in Information Science. 3 hours. Social and technical issues responsible for the evolution of information science. Major problems, trends and developments. Critical, historical survey of major works and developments in research and practice.

6220. Information Retrieval Theory. 3 hours. The theoretical foundations of information retrieval, including the mathematical modeling of file structures and searching techniques. The adaptation of communication models from various disciplines.

6240. Evaluation and Experimentation in Information Systems and Processes. 3 hours. Design of evaluation and performance studies in information retrieval within laboratory and operational environments. Experiments in information seeking and interactions. Issues of validity and reliability. Translation of results in to practical applications.

6350. Management of Information Resources in Organizations. 3 hours. Role of information in decision making, and management as an information-intense activity. Information and productivity. Information audit in organizations. Special issues and problems in managing information in different organizational environments.

6660. Readings in Information Science. 3 hours. Broad reading in a defined area of information science related to the student's research interest. Requires the critical evaluation of sources with particular emphasis on methodological issues. Prerequisite(s): reading proposal requires prior approval by instructor and adviser.

6700. Seminar in Communication and Use of Information. 3 hours. The nature of information as a phenomenon and of the communication processes. Conceptual linkage to treatments in various fields. The role of information and communication in individual, social and institutional behavior.

6720. Human Information and Communication Behavior. 3 hours. Variety of human information and communication behaviors, why people engage in them and how they can be described and understood. Relation to problems of effectiveness and evaluation of communication in information provision.

6740. Scholarly and Scientific Communication. 3 hours. Process by which scholarly, scientific and technical ideas and innovations are communicated. The role of formal and informal communication in the development of knowledge. The process of scholarly and scientific publishing. The role of information in the advancement of science, technology, social sciences, humanities and the arts.

6880. Seminar in Information Science and Technology. 3 hours. Advanced topics and problems in information science and technology. Individual investigation of selected problems. Prerequisite(s): consent of school. May be repeated for credit as topics vary.

6900-6910. Special Problems. 1-3 hours each. Supervised individual or small group study of special problems or topics not otherwise covered by regular course offerings. Prerequisite(s): consent of instructor and dean of school. May be repeated for credit as problems and topics vary.

6930. Information and Communication Measurement. 3 hours. Criteria for development of measures suitable for information and communication. Includes measures from such physical sciences as entropy and such social sciences as impact measures. Bibliometric and scientometric empirical laws and patterns. Measurement in communication science.

6940. Seminar in Research and Research Methodology. 1-12 hours. Advanced topics in research methodology. Research proposal development. Directed research study. May be repeated for credit as topics vary.

6945. Doctoral Seminar in Information Issues. 1 hour. Discussion of general issues and specific research efforts in information science and related fields by faculty, students and guests. Presentation of dissertation proposals and completed dissertations by students.

Information Science, INFO

6660. Readings in Information Science. 3 hours. (0;0;3) Broad reading in a defined area of information science. Topics vary. Course may be repeated for credit.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of school. 12 hours credit required. No credit assigned until dissertation has been completed and

filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

Linguistics

see English

Logistics and Supply Chain Management

see Marketing and Logistics

Management

Management, MGMT

5070. Management Issues. 1.5 hours. The basic concepts in managing the complete flow of materials that represent a supply chain from suppliers to customers. Emphases within the module are placed on production concepts with business wide applications, determining demand, transformation processes used to satisfy demand, and finally managing the supply activity supporting the transformation processes.

5120. Managing Organizational Design and Change. 3 hours. Examination of the development of organizational competencies and capabilities through the study of the theory and tools related to organizational design and change. Emphasis is placed on the use of horizontal and vertical linkage mechanisms that provide the organization with the flexibility to adapt to a rapidly changing competitive environment. Definition of management roles and the use of teams are emphasized in the change management process.

5140. Organizational Behavior and Analysis. 3 hours. Research emphasis in organizational behavior stressing organization-people linkages and interrelationships, including selection, orientation and training; job design and reward systems; supervision; formal participation schemes; appraisals and development; organizational structure and design; communications; control; and conflict resolution. Examination of behavioral science methodologies and strategies. Applications to tangential areas of organization theory, development, planning and implications for management and employee relations.

5210. Human Resource Management Seminar. 3 hours. A study of the creation and implementation of human resource policies in public and private organizations. Topics include employment, placement and personnel planning; compensation and benefits; employee and labor relations; training and development; health, safety and security. Designed for non-business graduate students and business graduate students with limited or no background in personnel management.

5230. Management Seminar. 3 hours. Development of philosophy, strategy and tactics in managing an enterprise. Administrative processes common to all enterprises, including variations needed to meet different situational requirements. Methods of study include extensive reading, exploratory research and seminar discussion.

5240. Project Management. 3 hours. Analysis and application of project management techniques and processes to large scale, complex and unique projects. Topics include project selection; planning and organization; negotiation and conflict resolution; budgeting and cost estimation; scheduling; resource allocation; monitoring and control; project auditing; and termination. Prerequisite(s): MGMT 5070 or equivalent.

5260. Employment, Placement and Personnel Planning. 3 hours. Review of the basic elements of employed performance, with analysis of the factors involved in employment, placement and personnel planning. This course blends theory and practice so the student may better understand the policies and procedures required for recruitment selection and personnel planning.

5280. Analysis and Design of Operations System. 3 hours. Planning, analysis and design of operating systems, including functions such as forecasting, inventory management, facility location and layout, aggregate planning, scheduling and supply chain management. Appropriate decision making tools and processing are emphasized.

5300. Entrepreneurship and Venture Management. 3 hours. The creation of new business enterprises and the expansion of current enterprises through the venture. Topics include assessment of entrepreneurial characteristics, the entrepreneurial team, generation and screening of venture ideas, market analysis and technical analysis.

5350. Seminar in Labor Relations. 3 hours. Theory and practice related to the process of labor relations in organizations, including union organization, collective bargaining, contract negotiation and administration, grievance and alternative dispute resolution processes, and current issues related to labor relations.

5510. Health Care Delivery Systems. 3 hours. Examines the evolution, structure, function and issues in the health care delivery system, considers the concepts and processes of health and illness; presents the economics of health care and the basic issues in health care policy; and provides a comprehensive introduction to the organization and management of health service institutions.

5520. Management of Health Service Organizations I. 3 hours. Provides advanced study of the unique operational applications of business/managerial theory, methodology and best practice to acute, home and long-term care health service institutions, including facilities design and management, financial analysis and management, systems analysis and evaluation, application and management of information technology, assessment of health needs and marketing, quality improvement, human resource management and the legal/ethical aspects of health care.

5530. Operation and Management of Physician Practice Organizations. 3 hours. Provides advanced study of the unique operational application of business/managerial theory, methodology and best practice to physician practice management including facilities design and management, financial analysis and management, systems analysis and evaluation, application and management of information technology, assessment of health needs and marketing, quality improvement, human resource management and the legal/ethical aspects of health care.

5540. Management of Health Service Organizations II. 3 hours. Provides advanced study of the unique operational applications of business/managerial theory, methodology and best practice to integrated health care delivery systems and managed care organizations, including their history and evolution; the processes to manage the price, volume, technology and quality of care; impact of employer and

third part organizations; financial analysis and management; systems analysis and evaluation; application and management of information technology; assessment of health needs and development; pricing; and marketing of health plan benefit packages; quality improvement; and the legal/ethical aspects of contracting between the health plan and the delivery system.

5550. Professional Project in Health Services Management. 3 hours. Applied research and/or fieldwork focusing on operational and management problems in health services settings. Project assignments directed by a selected health services administrator and by faculty.

5660. International Management. 3 hours. Designed to expose the student to the international aspects of management. Cultural differences in management applications, management of multinational corporations and integration of domestic business functions and international operations.

5700. Contemporary Issues in Management. 3 hours. Investigation of topics emerging from the dynamic environment of contemporary organizations, such as managerial issues related to electronic commerce or international business. May be repeated for credit as topics vary.

5710. Management Strategies for Public Issues. 3 hours. Public issues confronting business leaders stemming from profound changes in societal expectations and demands as manifested in political forums and government action. Focuses on the social and political environment of business and explores the role of the corporation in today's society.

5760. Strategic Management. 3 hours. Examination and evaluation of current theories, issues and programs involved in the formation, administration and implementation of administrative policies and planning systems. Includes both study of relevant literature and examination of policy and planning systems in operation within organizations.

5800. Internship. 3 hours. A supervised, productive and educationally meaningful work experience in a job related to the student's career objective. Prerequisite(s): student must meet employer's requirements and have consent of department. May not be used to meet professional field requirements. Pass/no pass only.

5850. Materials Management. 3 hours. Specialized application of fundamental principles of economics, accounting and management to the coordination of all business functions relating to materials.

5870. Leadership Research and Development. 3 hours. Theories and current research on leadership with emphasis placed on leadership development and specific applications within the organizational setting.

5890. Seminar in Compensation and Motivation Theory. 3 hours. An interdisciplinary seminar designed to study the theories, practices and techniques involved in developing and implementing total compensation programs for public and private organizations. The relationship of motivation theory to compensation theory is emphasized in an effort to develop the optimum package for employee productivity and satisfaction and organizational costs. Topics included are compensation theory, conceptual framework for job satisfaction, job design, relationship of incentive compensation packages and international compensation.

5900. Special Problems. 1–3 hours. Open to graduate students who are capable of developing a problem independently. Problem chosen by the student and developed through conferences and activities under the direction of the instructor. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Programs Office prior to registration.

6010. Seminar in Business Administration. 3 hours. Covers one or more special fields. May be repeated for credit, and two or more sections may be taken concurrently.

6030. Seminar in Strategic Management. 3 hours. Examination of the theoretical and empirical research on the question of why some firms outperform others. Includes the study of formulation and implementation issues from economic, organizational and other perspectives and prepares the student for participation in research within the field.

6100. Seminar in Organizational Behavior. 3 hours. An in-depth study of research in organizational behavior that familiarizes students with the classic and current literature in the discipline. Students will develop skills in theory-building and empirical research in the field.

6820. Seminar in Organizational Theory. 3 hours. Examination of the major theoretical streams in the study of organizations and the process of organizing. Extensive reading and seminar discussion are used to understand and extend both historical perspectives and emerging views and assist students in becoming active researchers within the discipline.

6860. Seminar in Human Resource Management. 3 hours. An examination of the major research in the field of human resources management, including the critical evaluation of research in terms of both theory and methodology. The integration and application of contemporary management theory to the field of human resource management in order to develop skills in theory-building and the design and implementation of empirical research.

6880. Production and Operations Management. 3 hours. Reading, research and analysis in the field of operations management, using a topical approach, with emphasis on such areas as design, operation and control of productive systems; methods of analysis; and operations policy formulation. Prerequisite(s): MGMT 5280 or equivalent, or consent of department. May be repeated for credit as topics vary.

6900-6910. Special Problems. 1-3 hours each. Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs, accompanied by conferences with professors in fields involved. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Programs Office prior to registration.

6940. Individual Research. 1-12 hours. Individual research for the doctoral candidate. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Programs Office prior to registration.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Programs Office prior to registration. May be repeated for credit.

Management Science

see Information Technology and Decision Sciences

Manufacturing Engineering Technology

see Engineering Technology

Marketing and Logistics

Logistics and Supply Chain Management, LSCM

5300. Strategic Supply Chain Management. 3 hours. The distribution and logistics imperative is to achieve cost-containment while delivering customer satisfaction. Course examines how channel integration fosters the coordination, systemization needed to maximize efficiency and produces the greatest net value for the customer. Students explore how resource allocation and channel relationship decisions impact inventory, transportation, warehousing, purchasing and packaging systems. Prerequisite(s): MKTG 5150 or consent of department.

5560. Strategic Logistics Management. 3 hours. Analysis of internal and environmental factors affecting logistical systems and operations. Includes the integration of transportation, inventory, facility location, informational flow, materials handling and packaging activities into a system for managing a physical flow of inbound and outbound products and materials in a global environment. The total-cost and total-system approaches are developed in relationship to planning and managing the logistical function within the organization. Prerequisite(s): MKTG 5150 or consent of department.

5860. Advanced Supply Chain Management Problems. 3 hours. Decision-making tools and skills as they apply to logistics and supply chain management. Course stresses developing skills to analyze technical problems and their interrelationships within a company. Prerequisite(s): LSCM 5300 and 5560.

Marketing, MKTG

5000. Marketing Concepts. 1.5 hours. A functional analysis of marketing and its importance in the economy as well as in business management. Develops an understanding of the increased complexity of the modern marketing system, why it is essential and how it performs. Embraces business activities involved in moving goods from production to consumption. This course meets the deficiency requirement in marketing for MBA candidates.

5150. Marketing Management. 3 hours. Application of concepts, tools and procedures employed by practicing marketing managers. Specific attention is given to product development and management, promotion development and management, channel selection and management, physical distribution management, and price setting and management. Students acquire skills in the essentials of case analysis and written as well as oral presentation of their analysis. Oral presentations may be made using electronic media. Groups may be required for case work. Prerequisite(s): MKTG 3650 or 5000.

5200. Customer Behavior. 3 hours. In a marketplace increasingly characterized by enduring buyer-seller relationships, marketers must be acutely aware of the individual and organizational characteristics that foster brand loyalty and equity. The identification of changing trends in customer behavior as applied to domestic and global markets, consumer markets, business-to-business markets, institutional markets, not-for-profit markets and governmental markets is critical for competitive success in today's dynamic markets and environments. The student will be introduced to models of buying behavior in consumer, business-to-business and not-for-profit marketing exchanges.

5250. Information for Strategic Marketing Decisions. 3 hours. Overview of methods for conducting market research. Research methodology topics covered include why and when to do marketing research; data types, sources and collection methods; sampling; and data analysis techniques. Use of the Internet as a major resource for conducting market research. Prerequisite(s): MKTG 5150 and DSCI 5010; DSCI 5180 is recommended; or consent of department.

5260. Applied Multivariate Methods for Marketing Decision Making. 3 hours. Develop a better understanding of the relevance of multivariate techniques such as multiple regression, discriminant, factor, cluster, logistics regression, conjoint analysis, etc. to marketing problems. Using a “hands-on, applications, managerial orientation,” the course emphasizes appropriate statistical and presentation software and packages that enhance correct application, interpretation and presentation of each technique. Prerequisite(s): MKTG 5250 and DSCI 5180 or consent of department.

5400. Product Planning and Brand Management. 3 hours. Focus on issues related to product/brand management, an important marketing function. Topics covered include integration of the function within the organization; portfolio management, environmental scanning, identification and creation of value (not just a product) to offer to consumers; budgeting, planning and control issues. Within these broad groupings, some of the specific areas discussed are research, data management and analyses for planning and decision making, decisions in the areas of product/service offering, pricing, promotions management (advertising, sales promotion, personal selling and publicity), distribution (all aspects), ethics, and global implications among others. Prerequisite(s): MKTG 5150.

5450. New Product Development. 3 hours. Focus on issues related to new product development. Includes topics such as new product development process, identification and creation of value (not just a product) to offer consumers; budgeting, planning and control issues. Within these broad groupings, some of the specific areas discussed are research, data management and analyses for planning and decision making in areas of new product/service offering, pricing, promotions management (advertising, sales promotion, personal selling and publicity), distribution (all aspects), ethics and global implications among others. Prerequisite(s): MKTG 5150.

5550. Decision Making in Global Markets. 3 hours. The first half of the 21st century will be characterized by significant shifts in the manufacturing, distribution and consumption of products and services. As transitional and emerging economies mature, foreign entry, local marketing and global management become compelling issues in the design and implementation of marketing strategies. Emphasis on the rapidly changing nature of global markets and implications for the desirability and potential profitability of these markets. Significant sources of threats and opportunities, along with those internal resources of a firm necessary for coping with these opportunities and threats will form the core material of the course. Particular emphasis will be given to the market entry and expansion strategies available to multi-national and global marketers. Prerequisite(s): MKTG 5150.

5600. Emerging Issues in Strategic Marketing. 3 hours. Investigation, analysis and discussion of selected emerging problems, methods, concepts relevant to strategic marketing decision-making in dynamic markets and environments. Examines a wide variety of marketing topics. Prerequisite(s): MKTG 5150 or consent of department.

5620. Marketing in a Digital Age. 3 hours. Designed for graduate level students, course addresses issues related to high technology marketing in the contemporary business environment. Guide to integrating electronic resources in the marketing process. Includes the following broad topic areas: electronic commerce and traditional marketing, electronics marketing resources, implementing the e-commerce strategy, and special topics. Prerequisite(s): MKTG 5150.

5650. Salesforce Management. 3 hours. Survey of aspects of integrating the salesforce with product development, manufacturing, order processing, account maintenance, and analyzing marketing decisions. Consists of four modules: evaluating the salesforce, integrating marketing (brand and product management) with field sales and customer service, analyzing marketing opportunities from a salesforce perspective, and salesforce analysis. Prerequisite(s): MKTG 5150.

5670. Strategic Retail Management. 3 hours. Exploration of the principles and methods of managing chain and independent retail stores. Requires the student to complete a project that includes all aspects of starting both brick and click retail operations. Prerequisite(s): MKTG 5150.

5750. Services Marketing. 3 hours. Students are assumed to enter this course with basic knowledge of marketing terminology and concepts. Focus is on integration and application of these services marketing contests, with particular focus on analysis and formulation of marketing strategy for service marketing organizations. Prerequisite(s): MKTG 5150.

5760. New Service Development. 3 hours. Examination of some of the important issues in the development of new services and development of the concepts, methods, and procedures by which marketing managers in the services industry can improve the quality of their decision-making with respect to the successful introduction of new offerings. Prerequisite(s): MKTG 5150.

5800. Internship in Marketing or Logistics. 3 hours. Supervised work experience in a position related to the student's career objective that meets the department's internship requirements. Prerequisite(s): 12 hours of graduate-level marketing courses. Student must meet employer's requirements and have consent of the department's MBA adviser and the internship director.

5850. Effective Marketing Planning in Dynamic Environments. 3 hours. Development of a strategic marketing plan for a specific product or service utilizing techniques and information from earlier courses in the program. Implementation, control and evaluation plans are developed. Course also addresses the practical aspects of appraisal, prediction and monitoring of external market factors that will impact organizational performance. A major theme of the course is how marketing decisions contribute to developing and maintaining competitive advantage in dynamic markets. Prerequisite(s): must be taken in the final term/semester of the student's program.

5875. Marketing Rights and Responsibilities. 3 hours. Critical assessment of the ethical and social management implications in the deployment of marketing strategy and tactics. Specific attention is afforded to the rights and responsibilities of marketers, consumers and society. Topics include the application of ethical theories to marketing problems, the societal outcomes of marketing policies and the reconciliation of international marketing norms, standards and rules of conduct. Exploration of real-world marketing decision-scenarios to provide a platform of highly interactive dialogue on issues dealing with ethics, organizational compliance, societal marketing and social responsibility. Prerequisite(s): MKTG 5150 or consent of department.

5900. Directed Study. 3 hours. Topic chosen by the student and developed through meetings and activities under the direction of the instructor; activities include required, regular participation in a specified 4000-level class. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Programs Office prior to registration.

5910. Marketing Practicum and Restricted Consulting Assignment. 3 hours. Course provides a unique opportunity for the student to learn-by-doing with a real business or institution, solving real problems. While each project provides very specific and unique learning opportunities within the marketing area, the primary areas of knowledge and skill development for each are business analysis and decision making; consultative business relationships; project management; communication, written and oral; and teamwork. Prerequisite(s): MKTG 5150, MKTG 5250 and consent of instructor.

6010. Seminar in Marketing Thought. 3 hours. Understanding of the history of marketing, theoretical definitions of marketing, and controversies in marketing thought. Investigation, analysis, and discussion of significant issues in the field of marketing.

6020. Seminar in Advanced Consumer Behavior. 3 hours. Interdisciplinary course examining empirical and theoretical studies of the factors that influence the acquisition, consumption and disposition of goods, services and ideas. Analysis of the psychological, sociological, anthropological, demographic and regulatory forces that impact consumers. Examination of research methodologies employed to conduct empirical studies of consumer behavior.

6030. Seminar in Marketing Strategy. 3 hours. Review of research in marketing strategy. Seminar topics include theories of competition and marketing strategy including antecedents, outcomes, mediators and moderators between strategy and performance; multimarket competition, first/late mover advantage, transaction cost analysis, marketing channels, and the contributions to the strategy dialogue.

6600. Seminar in Marketing Issues. 3 hours. Investigation, analysis and discussion of significant issues in marketing. May be repeated for credit.

6900-6910. Special Problems. 1-3 hours each. Research by doctoral students in fields of special interest. Includes project research studies and intensive reading conferences with professors in fields involved. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Programs Office prior to registration.

6940. Individual Research. 1-12 hours. Individual research for the doctoral candidate. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Programs Office prior to registration. May be repeated for credit.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. Prerequisite(s): approved applications for special problems/independent research/dissertation credit must be submitted to the COBA Graduate Programs Office prior to registration. May be repeated for credit.

Master's Engineering Technology

see Engineering Technology

Materials Science and Engineering

Materials Science, MTSC

5000. Thermodynamics of Materials. 3 hours. The zeroth law of thermodynamics, work, energy and the first law of thermodynamics; the second law of thermodynamics, thermodynamic potentials, the third law of thermodynamics, thermodynamic identities and their uses, phase equilibria in one-component systems, behavior and reactions of gases. Solutions, binary and multicomponent systems: phase equilibria, materials separation and purification. Electrochemistry. Thermodynamics of modern materials including liquid crystals.

5100. Fundamental Concepts of Materials Science. 3 hours. Crystal structures including defects and structures of non-crystalline materials. Phase diagrams, intermolecular forces. Organic raw materials, metals and alloys, ceramics, electronic materials, liquid crystals, polymers, natural and synthetic composites, smart materials, hybrids. Mechanical, thermophysical, electrical, magnetic and surface properties including tribology, corrosion and degradation. Testing of materials. Prerequisite(s): consent of department.

5200. Advanced Concepts of Metallurgical Science. 3 hours. Chemical and physical properties of metals and alloys. Emphasis on the relationship of structure and thermodynamics to behavior. Topics include crystal structure, thermodynamics, phase diagrams, phase transformations, oxidation, mechanical, electrical and magnetic properties. Prerequisite(s): PHYS 4110, CHEM 3510 or consent of department.

5210. Corrosion and Oxidation of Materials. 3 hours. Electrochemical corrosion mechanisms, corrosion prevention and high temperature corrosion. Oxidation mechanisms of metals and alloys, internal oxidation, oxidation resistant alloys and other methods of oxidation protection. Prerequisite(s): MTSC 5200 or consent of department.

5300. Science and Technology of Modern Ceramics. 3 hours. Emphasis on structure-property relationships: chemical bonding, crystal structures, crystal chemistry, electrical properties, thermal behavior, defect chemistry. Processing topics: powder preparation, sol-gel synthesis, densification, toughening mechanisms. Materials topics: glasses, dielectrics, superconductors, aerogels. Prerequisite(s): MTSC 5100, 5200 or consent of department.

5310. Sol-Gel Processing. 3 hours. Elements of sol-gel synthesis and processing, including colloids, sols, alkoxide chemistry, hydrolysis and condensation reactions, gelation mechanisms, novel synthesis methods, sol-gel thin films, thin film processing and characterization of sol-gel products. Prerequisite(s): MTSC 5300 or consent of department.

5400. Advanced Polymer Physics and Chemistry. 3 hours. Chemical structures, polymerization, molar masses, chain conformations. Rubber elasticity, polymer solutions, glassy state and aging. Mechanical properties, fracture mechanics and viscoelasticity. Dielectric properties. Polymer liquid crystals. Semi-crystalline polymers, polymer melts, rheology and processing. Thermal analysis, microscopy, diffractometry and spectroscopy of polymers. Computer simulations of polymer-based materials.

5410. Polymer Reliability. 3 hours. Reliability of polymers and polymer-based composites (PPCS); flexible, semirigid, rigid, elastomeric, crosslinked polymers, heterogeneous polymer-containing (such as polymer + ceramic) composites and polymer liquid crystals. Prediction of long-term performance from short-term tests. Prerequisite(s): MTSC 5400 or consent of department.

5415. Polymer Viscoelasticity. 3 hours. Polymer structure-property relations, linear and nonlinear viscoelasticity, dynamic mechanical analysis, time temperature superposition, creep and stress relaxation, mechanical models for prediction of polymer deformation, rubber elasticity, environmental effects on polymer deformation, instrumentation for prediction of long term properties. Prerequisite(s): MTSC 5400.

5430. Polymer Rheology and Processing. 3 hours. Experimental methods for viscosity-temperature-shear rate measurements, application to melts, filled systems and suspensions. Injection, extrusion, thermoforming, blow molding, rotational molding, compression and transfer molding, calendaring and post-manufacturing operations. Prerequisite(s): MTSC 5400 or consent of department.

5440. Thermal Analysis. 3 hours. Differential scanning calorimetry; thermogravimetric metric analysis; dynamic mechanical and thermomechanical analysis; glass transition; melting transitions, relaxations in the glassy state, liquid crystalline phase changes. Prerequisite(s): MTSC 5400 or consent of department.

5500. Electronic, Optical and Magnetic Materials. 3 hours. Intensive study of the properties of electronic, optical and magnetic materials. Electrical and thermal conduction, elementary quantum physics, bonding, band theory, semi-conductors, dielectrics, magnetic properties, superconductivity, optical properties. Prerequisite(s): PHYS 4500 or consent of department.

5515. Materials and Solid State Devices. 3 hours. How electronic, optical and magnetic devices actually work based on a materials perspective. P-N junctions, MOS capacitors, mosfets, CMOS, Bi-CMOS, RF, MRAM and optical detectors/switches; emphasis on the importance of mastering materials properties in electrical engineering device design and integration. Prerequisite(s): MTSC 5500 or consent of department.

5520. Physical and Chemical Basis of Integrated Circuit Fabrication. 3 hours. Current requirements and future trends in processing technology for very large scale integrated circuits and related application. Wafer fabrication, lithography, oxidation, diffusion, ion implantation, film deposition, wet and dry etching, multilevel metal interconnect, process integration and process simulation. Prerequisite(s): MTSC 5500 or consent of department.

5530. Integrated Circuit Packaging. 3 hours. Basic packaging concepts, materials, fabrication, testing and reliability, as well as the basics of electrical, thermal and mechanical considerations as required for the design and manufacturing of microelectronics packaging. Current requirements and future trends are presented. General review of analytical techniques used in the evaluation and failure analysis of microelectronic packages. Prerequisite(s): MTSC 5500 or consent of department.

5540. Materials for Advanced Displays. 3 hours. Materials and processing requirements for new display concepts including field emission displays, organic light emitting displays, flexible displays, laser-based displays and inorganic

electroluminescent displays. Special emphasis will be placed on the materials effects on device reliability. Prerequisite(s): MTSC 5500 or consent of department.

5550. Materials and Mechanics for MEMS Devices. 3 hours. Methods, techniques and philosophies used to characterize MEMS structures for engineering applications. Topics include fundamentals of elastic and plastic deformation in microscale, anisotropic material properties, crystalline and non-crystalline materials, and mechanical behavior such as strength, fracture, creep and fatigue as they relate to the microscale design. Material characterization, mechanical testing and mechanical characterization are discussed. Emphasis is on emerging techniques to assess design-relevant mechanical properties. Prerequisite(s): consent of department.

5600. Materials Characterization. 3 hours. Survey of atomic and structural analysis techniques as applied to surface and bulk materials. Physical processes involved in the interaction of ions, electrons and photons with solids; characteristics of the emergent radiation in relation to the structure and composition. Prerequisite(s): MTSC 5200, 5300, 5400 or consent of department.

5610. Fundamentals of Surface and Thin Film Analysis. 3 hours. Survey of materials characterization techniques; optical microscopy; Rutherford backscattering; secondary ion mass spectroscopy; ion channeling; scanning tunneling microscopy; x-ray photoelectron spectroscopies; surface properties. Prerequisite(s): MTSC 5600 or consent of department.

5700. Seminar in Materials Science and Engineering. 1–3 hours. Current topics in materials science and engineering.

5800-5810. Special Studies in Materials Science. 3 hours each. Organized classes specifically designed to accommodate the needs of students and the demands of program development that are not met by regular offerings. Short courses and workshops on specific topics, organized on a limited-offering basis, to be repeated only upon demand. May be repeated for credit.

5820. Internship in Materials Science. 3 hours. A supervised industrial internship requiring a minimum of 150 clock hours of work experience. Prerequisite(s): consent of department.

5830. Cooperative Education in Materials Science. 3 hours. Supervised work in a job directly related to the student's major, professional field of study or career objective.

5900-5910. Special Problems in Materials Research. 1–6 hours each. Special problems in advanced materials science for graduate students. Problems chosen by the student with approval of the supervising professor and the department chair.

5920-5930. Research Problems in Lieu of Thesis. 3 hours each. An introduction to research; may consist of an experimental, theoretical or review topic.

5940. Seminar in Current Materials Science Literature. 1–3 hours. Reports and discussion of current materials science research published in journals and other means of dissemination of research.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department, 6 hours of credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

5960. Materials Science Institute. 1–6 hours. For students accepted by the university as participants in special institute programs. May be repeated for credit, not to exceed a total of 6 hours in each course. Laboratory fee required.

6000. Quantum Mechanics for Materials Scientists. 3 hours. The Schrödinger equation, quantum theory, solid state theory, band structure, tunneling and scattering with an emphasis on materials properties. Prerequisite(s): MTSC 5500 or consent of department.

6100. Mechanical Properties of Materials. 3 hours. Stress, strain and the basics of concepts in deformation and fracture for metals, polymers and ceramics. Analysis of important mechanical properties such as plastic flow, creep, fatigue, fracture toughness and rupture. Application of these principles to the design of improved materials and engineering structures. Prerequisite(s): MTSC 5600 or consent of department.

6110. Applied Fracture Mechanics. 3 hours. Linear elastic fracture mechanics, elastic-plastic fracture mechanics, time dependent failure, creep and fatigue, experimental analysis of fracture and failure of metals, ceramics, polymers and composites. Failure analysis related to material, product design, manufacturing and product. Prerequisite(s): MTSC 6100 or consent of department.

6120. Composite Material. 3 hours. Fibers; matrix materials; interfaces; polymer matrix composites; metal matrix composites; ceramic matrix composites; carbon fiber composites; micromechanics, macromechanics, laminate theory and application, design, failure analysis. Prerequisite(s): MTSC 6100 or consent of department.

6200. Imperfections in Solids. 3 hours. Point defects in semiconductors, metals, ceramics and non-ideal defect structures; non-equilibrium conditions produced by irradiation or quenching; effects or defects on electrical and physical properties, effects of defects at interfaces between differing materials. Prerequisite(s): MTSC 5500 or consent of department.

6210. Deformation Mechanisms in Solid Materials. 3 hours. Discussions on microelasticity and microplasticity of materials. Application of dislocation theory to understand deformation mechanisms related to strengthening. Interactions of dislocation with solute precipitates, dispersoid, grain boundary and barriers are presented. Deformation mechanisms in amorphous and polymeric materials. Micromechanisms of deformation in fatigue, creep, creep-fatigue and strain-rate loading are described.

6300. Phase Transformations. 3 hours. Thermodynamics, kinetic and structural aspects of metallic and ceramic phase transformations; mechanisms and rate-determining factors in solid-phase reactions; diffusion processes, nucleation theory, precipitations from solid solution, order-disorder phenomena and applications of binary and ternary phase diagrams. Prerequisite(s): MTSC 5300 or consent of department.

6400. Advanced Electron Microscopy. 3 hours. Theory and applications of scanning and transmission electron microscopy; sample preparation and analytical techniques. Prerequisite(s): MTSC 5600 or consent of department.

6610. Diffraction Science. 3 hours. Diffraction theory; scattering and diffraction experiments; kinematic theory; dynamical theory; x-ray topography; crystal structure analysis; disordered crystals; quasi-crystals. Prerequisite(s): MTSC 5600, 5610 or consent of department.

6800. Selected Topics in Materials Science. 3 hours. Topics from specialized areas of materials science, physics and chemistry. May be repeated for credit as topics vary.

6900-6910. Special Problems. 1-3 hours each. Special problems in experimental or theoretical for advanced materials science graduate students. Problem chosen by the student with the approval of the supervising professor.

6940. Individual Research. 1-3 hours. To be scheduled by the doctoral candidate engaged in research. May be repeated for credit.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

6970. Seminar for Doctoral Candidates. 3 hours. Demonstration of competence in a specific area of materials science as evidenced by criteria established by the faculty of each discipline. May be repeated for credit.

6990. Postdoctoral Research. 3 hours. For postdoctoral fellows to further training and research experience in developing and solving problems independently. Prerequisite(s): consent of department. May be repeated for credit.

Mathematics

The content of courses will vary from time to time, reflecting current trends and recent developments.

Mathematics, MATH

5000. Instructional Issues for the Professional Mathematician. 3 hours. Focus on various instructional issues from the perspective of the professional mathematician. Some major topics include course planning, the content of a course syllabus, lecture styles, the preparation and mechanics of lectures, the conduct of problem solving sessions, classroom management, the student-instructor relationship, examination formats, the preparation, administration and grading of examinations and the management of teaching assistants and graders. Prerequisite(s): consent of department.

5010. Foundations of Mathematics. 3 hours. Mathematical logic and set theory; axiomatic methods; cardinal arithmetic; ordered sets and ordinal numbers; the axiom of choice and its equivalent forms; the continuum hypothesis. Prerequisite(s): consent of department.

5050. Linear Programming. 3 hours. Convex polyhedra, simplex method, duality theory, network flows, integer programming, ellipsoidal method, applications to modeling and game theory. Prerequisite(s): consent of department.

5110-5120. Introduction to Analysis. 3 hours each. A rigorous development for the real case of the theories of continuous functions, differentiation, Riemann integration, infinite sequences and series, uniform convergence and related topics; an introduction to the complex case.

5200. Topics in Dynamical Systems. 3 hours. Dynamical systems in one and higher dimensions. Linearization of hyperbolic fixed points. Hamiltonian systems and twist maps. The concept of topological conjugacy and structural stability. Anosov diffeomorphisms, geodesic flow and attractors. Chaotic long-term behavior of these hyperbolic systems. Measures of complexity. Prerequisite(s): consent of department.

5210-5220. Numerical Analysis. 3 hours each. A rigorous mathematical analysis of numerical methods: norms, error analysis, linear systems, eigenvalues and eigenvectors, iterative methods of solving non-linear systems, polynomial and spline approximation, numerical differentiation and integration, numerical solution or ordinary and partial differential equations. Prerequisite(s): FORTRAN programming or consent of department.

5290. Numerical Methods. 3 hours. A non-theoretical development of various numerical methods for use with a computer to solve equations, solve linear and non-linear systems of equations, find eigenvalues and eigenvectors, approximate functions, approximate derivatives and definite integrals, solve differential equations and solve other such problems of a mathematical nature. Errors due to instability of method and those due to the finite-precision computer will be studied. Prerequisite(s): a programming language and consent of department.

5310-5320. Functions of a Real Variable. 3 hours each.

5310. Sets and operations; descriptive set properties; cardinal numbers; order types and ordinals; metric spaces; the theory of Lebesgue measure; metric properties of sets.

5320. Set functions and abstract measure; measurable functions; types of continuity; classification of functions; the Lebesgue integral; Dini derivatives and the fundamental theorem of the calculus.

5350. Markov Processes. 3 hours. The ergodic theorem; regular and ergodic Markov chains; absorbing chains and random walks; mean first passage time; applications to electric circuits, entropy, genetics, games, decision theory and probability.

5400. Introduction to Functions of a Complex Variable. 3 hours. Algebra of complex numbers and geometric representation; analytical functions; elementary functions and mapping; real-line integrals; complex integration; power series; residues, poles, conformal mapping and applications. Only one course, MATH 5400, 5500 or 5600, may be used towards satisfying the course work requirements for a graduate degree in mathematics.

5410-5420. Functions of a Complex Variable. 3 hours each. The theory of analytic functions from the Cauchy-Riemann and Weierstrass points of view.

5450. Calculus on Manifolds. 3 hours. Introduction to differential geometry and topology. Topics include implicit and inverse function theorems, differentiable manifolds, tangent bundles, Riemannian manifolds, tensors, curvature, differential forms, integration on manifolds and Stokes' theorem. Prerequisite(s): consent of department.

5460-5470. Differential Equations. 3 hours each. Calculation of solutions to systems of ordinary differential equations, study of algebraic and qualitative properties of solutions, study of partial differential equations of mathematical physics, iterative methods for numerical solutions of ordinary and partial differential equations and introduction to the finite element method. Prerequisite(s): MATH 5110-5120 and linear algebra.

5500. Introduction to the Theory of Matrices. 3 hours. Congruence (Hermitian); similarity; orthogonality, matrices with polynomial elements and minimal polynomials; Cayley-Hamilton theorem; bilinear and quadratic forms; eigenvalues. Only one course, MATH 5400, 5500 or 5600, may be used towards satisfying the course work requirements for a graduate degree in mathematics.

5520. Modern Algebra. 3 hours. Groups and their generalizations; homomorphism and isomorphism theories; direct sums and products; orderings; abelian groups and their invariants. Prerequisite(s): MATH 3510 or equivalent.

5530. Selected Topics in Modern Algebra. 3 hours. Ring and field extensions, Galois groups, ideals and valuation theory.

5600. Introduction to Topology. 3 hours. Point set topology; connectedness, compactness, continuous functions and metric spaces. Only one course, MATH 5400, 5500 or 5600, may be used towards satisfying the course work requirement for a graduate degree in mathematics.

5610-5620. Topology. 3 hours each. A rigorous development of abstract topological spaces, mappings, metric spaces, continua, product and quotient spaces; introduction to algebraic methods.

5810-5820. Probability and Statistics. 3 hours each.

5810. Important densities and stochastic processes; measure and integration; laws of large numbers; limit theorems.

5820. Markov processes and random walks; renewal theory and Laplace transforms; characteristic functions; infinitely divisible distribution; harmonic analysis.

5900-5910. Special Problems. 1–3 hours each.

5940. Seminar in Mathematical Literature. 1–3 hours.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

6010. Topics in Logic and Foundations. 3 hours. Mathematical logic, metamathematics and foundations of mathematics. May be repeated for credit.

6110. Topics in Analysis. 3 hours. Measure and integration theory, summability, complex variables and functional analysis. May be repeated for credit.

6130. Infinite Processes. 3 hours. Topics selected from infinite series, infinite matrices, continued fractions, summation processes and integration theory.

6150. Functional Analysis. 3 hours. Normed linear spaces; completeness, convexity and duality. Topics selected from linear operators, spectral analysis, vector lattices and Banach algebras. May be repeated for credit.

6170. Differential Equations. 3 hours. Existence, uniqueness and approximation of solutions to linear and non-linear ordinary, partial and functional differential equations. Relationships with functional analysis. Emphasis is on computer-related methods. May be repeated for credit.

6200. Topics in Ergodic Theory. 3 hours. Basic ergodic theorems. Mixing properties and entropy. Oseledec's multiplicative ergodic theorem and Lyapunov exponents. Applications to dynamical systems. Rational functions and Julia sets. Wandering across Mandelbrot set. Sullivan's conformal measure. Thermodynamical formalism and conformal measures applied to compute Hausdorff measures and packing measures of attractors, repellers and Julia sets. Dimension invariants (Hausdorff, box and packing dimension) of these sets. Prerequisite(s): consent of department. May be repeated for credit.

6310. Topics in Combinatorics. 3 hours. Selected topics of current interest in combinatorics such as enumeration, combinatorial optimization, Ramsey theory, topological graph theory, random methods in combinatorics (random graphs, random matrices, randomized algorithms, etc.), combinatorial designs, matroids, formal languages and combinatorics on words, combinatorial number theory, combinatorial and symbolic methods in dynamical systems. May be repeated for credit.

6510. Topics in Algebra. 3 hours. Groups, rings, modules, fields and other algebraic structures; homological and categorical algebra. Multiplicative and additive number theory, diophantine equations and algebraic number theory. May be repeated for credit.

6610. Topics in Topology and Geometry. 3 hours. Point set and general topology, differential geometry and global geometry. May be repeated for credit.

6620. Algebraic Topology. 3 hours. Topics from algebraic topology such as fundamental group, singular homology, fixed point theorems, cohomology, cup products, Steenrod powers, vector bundles, classifying spaces, characteristic classes and spectral sequences. Prerequisite(s): MATH 5530 and 5620. May be repeated for credit.

6710. Topics in Applied Mathematics. 3 hours. Optimization and control theory, perturbation methods, eigenvalue problems, generalized functions, transform methods and spectral theory. May be repeated for credit.

6810. Probability. 3 hours. Probability measures and integration, random variables and distributions, convergence theorems, conditional probability and expectation, martingales, stochastic processes. May be repeated for credit.

6900-6910. Special Problems. 1–3 hours each.

6940. Individual Research. Variable credit. To be scheduled by the doctoral candidate engaged in research. May be repeated for credit.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

Mechanical Engineering Technology

see Engineering Technology

Merchandising and Hospitality Management

Merchandising and Hospitality Management, SMHM

5000. Merchandising Study Tour. 1–3 hours. Experience fashion, home furnishings and hospitality industries through visits to manufacturing facilities, retail establishments, museums, historical structures, hotels, restaurants and industry support organizations. Includes field study in industry centers for fashion (New York), home furnishings (High Point, N.C.), hospitality (Las Vegas) or other selected destinations. Pre-trip and post-trip classes required. Prerequisite(s): SMHM 1500, SMHM 2400 or 2490, or consent of school. Credit varies depending upon length of field study and destination. No more than 3 hours of field study may be used to fulfill degree requirements.

5080. Merchandising Ventures. 3 hours. Exploration of the merchandiser's role in establishing new ventures with fashion and home furnishings products. Includes non-traditional merchandising formats. Prerequisite(s): SMHM 2400 or 2490, and SMHM 3510, and ACCT 2020.

5090. Virtual Merchandising. 3 hours. (2;2) Study and application of visual merchandising in a virtual format. Emphasis on merchandising processes that convey product characteristics to the consumer from production through distribution. Prerequisite(s): SMHM 2360, and SMHM 2490 or 2400.

5200. Survey of Beverages in the Hospitality Industry. 3 hours. Study of social beverages commonly used in the hospitality industry. Primary emphasis is on history, language, product identification and production and merchandising techniques for wines, beers, distilled spirits and non-alcoholic beverages. Prerequisite(s): students must be 21 years of age or older.

5240. Merchandising Practices. 3 hours. Case analysis of merchandising principles practiced by representative consumer-driven international and domestic textile, apparel and home furnishings companies. Interpretation of global trends and issues influencing the vertical and horizontal integration of merchandising practices in the distribution pipeline.

5250. Restaurant Development. 3 hours. The identification, examination and application of restaurant development principles. Topics include menu planning, service styles, dining room and kitchen design, materials purchasing and receiving, food production techniques, accounting and financial management, and merchandising.

5260. Hospitality Business Strategies. 3 hours. In depth, comprehensive study, strategic planning and analysis of the hospitality manager's role in operating a successful hospitality operation including applications of specialized software and human relations skills. Prerequisite(s): SMHM 3260 or consent of school.

5280. Hotel and Restaurant Operations: Theory and Analysis. 3 hours. A study of hotel and restaurant management operations problems, including the areas of budgeting, human resource scheduling and payroll control, sales forecasting, costing and financial statement analysis. Students will be actively involved in writing and discussing cases on current operations issues.

5300. Research Methods in Merchandising and Hospitality Management. 3 hours. Critical evaluation of research methods in merchandising and hospitality management fields. Develop research framework and formulate research design questions. Enhance research skills through writing a thesis proposal or research proposal.

5350. Issues and Trends in Merchandising and Hospitality Management. 3 hours. An analysis of current issues, trends and future projections influencing the field of either hotel and restaurant management or fashion merchandising.

5400. Research Applications in Merchandising and Hospitality Management. 3 hours. Execute research projects with implications for marketers in textile, apparel, home furnishings or hospitality industries. Emphasis is on conceptualizing problems, analyzing and interpreting data, and writing for industry and/or scholarly dissemination. Prerequisite(s): SMHM 5300; statistics; or consent of instructor.

5440. Consumer Theory. 3 hours. Classic and contemporary consumer theories analyzed in situational contexts. Emphasis on formulating integrated consumer behavior models for strategic decision-making in both domestic and international consumer-driven markets in merchandising and hospitality industries.

5460. Human Relations in Merchandising and Hospitality Management. 3 hours. Major areas of human relations skills necessary for managing employees and customers in merchandising and hospitality management are studied. Topics include employee supervision, motivation, communication, training, management development, problem-solving, decision making and stress management.

5480. Hospitality Industry Finance. 3 hours. Comprehensive application of financial management for the hospitality industry: managerial finance approach to ratio analysis, risk and value, timing and value of cash flows, project valuation, capital expenditures, financial markets, and income taxes. Problem solving methods applied to managerial decisions for the hospitality industry. Prerequisite(s): SMHM 2480 or consent of school.

5500. Merchandising Strategies. 3 hours. Merchandising theory, principles and practice applied to the strategic planning, developing and presenting of textile, apparel and home furnishings product lines. How consumer driven markets motivate product sourcing, pricing, assortment, styling and timing in the global distribution pipeline.

5550. Promotional Strategies. 3 hours. Analyze internal, external and situational factors that influence promotion strategies including advertising, public relations, promotions and salesmanship. Formulate and judge promotion strategies that generate added economic value to textile, apparel, home furnishings, or hospitality products or companies.

5600. Concept Merchandising. 3 hours. Explore concept merchandising of tangible and intangible products, services and experiences that are linking merchandising and hospitality segments. Apply merchandising strategies of planning, developing and presenting products to consumers with the experiential components of the hospitality industry to provide a total concept-based experience. Topics include lifestyle merchandising, thematic merchandising, experience packaging, immersive environments, brand extension, co-branding, product category management, blurring, customization, innovation (planned obsolescence), consumer value orientations, value-added merchandising, core competencies in products and services, collaborative partnerships and globalization.

5650. Global Merchandising. 3 hours. Critical analysis of merchandising principles and practices in a global context with emphasis on economic, political, environmental, cultural and social issues; geographic distribution; trade theory; trade data; and technological developments. Contrast the global dominance of textile, apparel and home furnishings industries on world trade and on consumer-driven markets by country and geo-political regions.

5660. Advanced Merchandising Applications. 3 hours. (2;2) An experiential retail laboratory serves as a real-world case study of merchandising theory, principles and operations. Emphasis on problem solving, case analysis, creative thinking, fact finding, data analysis and data interpretation to operate a for-profit business. Prerequisite(s): SMHM 3510 and 3850, or consent of instructor.

5700. Service Excellence. 3 hours. Explores the dynamics of service excellence in the merchandising and hospitality industries. How consumer-driven trends motivate service approaches, management and training procedures, and their impact in the marketplace.

5730. Hotel and Restaurant Management Systems. 3 hours. In-depth analysis of the systems approach to marketing management in the hospitality industry. Students utilize computer simulations to gain an understanding of hotel operations and menu engineering principles. An overall understanding of quality management is emphasized. Prerequisite(s): SMHM 4210, MKTG 3650 or consent of school.

5750. Electronic Merchandising. 3 hours. Analysis and application of electronic information exchange technology related to textile, apparel, home furnishings and other fashion-oriented products. Emphasis on product development, manufacturing/production, distribution, merchandising, e-commerce and sales.

5790. Field Experiences in Various Areas of Concentration. 3 hours. Arranged.

5800. Seminar in Various Areas of Concentration. 3 hours. May be repeated for credit as topics vary.

5820. Facilities Planning, Equipment Layout and Design. 3 hours. (2;2) Principles of hotel and restaurant property management and facilities layout and design, emphasizing equipment selection, space allocation, guest and production/service traffic flow patterns and facilities operations management. Prerequisite(s): SMHM 4250 (may be taken concurrently) or consent of instructor.

5830. Legal and Regulatory Aspects of Merchandising and Hospitality Management. 3 hours. Introduction to the laws and regulations which influence business and management decisions in merchandising and the hospitality industry. Provides a practical knowledge of the law and operation of the legal system. Focuses on the management techniques for minimizing risks associated with legal liability.

5850. Brand Development. 3 hours. Students plan, develop and present a merchandise group for private label apparel or home furnishings goods using a multi-functional team approach. Includes application of computer software. Prerequisite(s): SMHM 1650 or 2400; 2360 and 2650, or consent of instructor.

5900-5910. Special Problems in Various Areas of Concentration. 3 hours each. Arranged. Prerequisite(s): consent of instructor.

5920. Problem in Lieu of Thesis. 3 hours. No credit given until problem in lieu of thesis is completed.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

Military Science

see *Undergraduate Catalog*

Music

MUAG	— Music Applied General Courses
MUAM	— Music Applied Private Lessons (Major)
MUAC	— Music Applied Private Lessons (Concentration)
MUAS	— Music Applied Private Lessons (Secondary)
MUCM	— Chamber Music
MUCP	— Music Composition
MUED	— Music Education
MUEN	— Music Ensembles
MUET	— Music Ethnomusicology
MUGC	— Music General Courses
MUMH	— Music History and Literature, and Musicology
MUJS	— Music Jazz Studies
MULB	— Music Laboratories
MUTH	— Music Theory

Courses that may be repeated for credit are MUAG 5000, 5210, 5390, 5640, 5650, 5660, 5800, 5810, 5850, 5860, 5890 and 6850; all courses in MUAM, MUAC and MUAS; all courses in MUCM; MUCP 5180, 5190, 6190, 6200 and 6400; MUED 5300, 5821, 5822, 5823, 5831, 5832, 5840, 5880 and 6480; all courses in MUEN; MUET 5210; MUJS 5470 and 5760; all courses in MULB; MUMH 5711, 6160, 6520, 6530 and 6540; MUTH 5090, 5381, 5382, 5383 and 6680; and MUGC 5890, 5900-5910, 5930, 5950, 6900-6910 and 6950.

Applied General Courses, Music, MUAG

5000. Choral Techniques. 3 hours. Choral organizations, singing, conducting, performing, repertoire and history. Actual experience in a model a cappella choir.

5210. Studies in Vocal Literature. 2 hours. An intensive study of a style period or genre of solo vocal literature. May be repeated for credit as topics vary.

5260. Piano Accompanying (Vocal). 3 hours. Sight reading and transposition; lieder and art-song repertoire; orchestral reductions for aria accompaniment. Prerequisite(s): consent of college.

5261. Advanced Piano Accompanying (Vocal). 3 hours. Sight reading, transposition and clef reading; art song and aria repertoire; coaching methods. Prerequisite(s): MUAG 5260.

5270. Piano Collaboration (Instrumental). 3 hours. Fundamentals of instrumental collaboration; rehearsal techniques; score reading (transposition and clefs); orchestral reductions; instrumental repertoire; work with soloists. Prerequisite(s): consent of college.

5271. Advanced Piano Collaboration (Instrumental). 3 hours. Advanced score reading (transposition and clefs); orchestral reductions; advanced instrumental repertoire; continued work with soloists, thorough bass realization. Prerequisite(s): MUAG 5270.

5280. Service Playing Skills I. 2 hours. Intense study of basic hymn playing, keyboard harmony, transposition, figured bass, open score reading, sight-reading and beginning improvisation. Prerequisite(s): satisfactory score on Graduate Placement Exam or MUTH 5381, 5382 and 5383.

5285. Music in Church: Gregorian Chant, Protestant Reformation, and John Keble. 3 hours. A chronological survey of church music: music in the Hebrew Testament and its influence on music of the early Christian Church; Renaissance and Reformation, development of the oratorio influence of Henrich Schuetz and J. S. Bach, the English Restoration, music in the English Chapel Royal, development of the English hymn, music in the courts of Europe, Romantic music, Oxford Movement influence on music, 19th century revival of music. This seminar is designed for anyone planning a career in church music: choral director/minister of music; organist; choirmaster/organist. Aural and printed musical examples, repertoire lists. How to make practical use of music in the church with extensive repertoire lists aimed at finding quality music from every period, easy to moderate difficulty, of practical use with the volunteer church choir.

5286. Music in the Church: The Larger Volunteer Choir; Hymnody in the 20th and 21st Centuries. 3 hours. A survey of church music, chronologically exploring the influence of Eastern Music, African music, North American church music and music in 20th century America, including aural and printed examples with repertoire lists. How to make practical choices in choral music with repertoire lists aimed at finding quality music, easy to moderate difficulty, appropriate for the volunteer church choir, mostly SATB, some SAB, 2-part and unison anthems. Explores how to assess the appropriateness of music for volunteer singers: liturgically, musically, denominationally. The mechanics of an efficient choral rehearsal; planning, using the liturgical year and a lectionary; preparing a budget; survey of resources for music and equipment; introduction to music writing software.

5287. Church Music Intermediate Practicum. 3 hours. This course will concentrate on the mechanics of administering a comprehensive church music program including outlines of structure of varied model programs, working with volunteers, church committees, the pastor(s), the interview, resources for music and equipment, preparing a budget, sample contracts, copyright laws, professional memberships and denominational variants. The course will include an extensive study of psalm singing looking at styles of Gregorian Chant to Gelineau-type psalms; how to interpret Gregorian Psalm notation, understanding pointing, ways to teach them and ways to perform them; the denominational hymnal as a resource; for organists, how to accompany the different types of psalms; introduction to hand bells and repertoire for hand bells; diplomacy and church politics; choral repertoire lists; working with adult, children's, and youth choirs.

5288. Church Music Advanced Practicum. 3 hours. Conducting from the organ console; creative hymn playing; playing orchestral reductions; creative registration; anthem accompaniment including the English Cathedral repertoire; planning the choral rehearsal; extensive survey of practical organ repertoire for use in worship; modulations; professional memberships, resources for music, transposition; descants and free accompaniments, pipe and electronic organs; introduction to music writing software; sample contracts, copyright laws; repertoire for organ and instruments; appropriate wedding and funeral repertoire. Introduction to goals and missions for supporting professional organizations such as the American Guild of Organists; Organ Historical Society; The Organ Club of Great Britain. Matters of diplomacy and church politics. Prerequisite(s): Intermediate Practicum recommended, not required.

5290. History of Organ Style and Design. 2 hours. A survey of national styles of organbuilding in Germany, France, Italy, Spain and England, 1550–1900. Emphasis on construction of action, windchests and pipes. Contemporary development of the organ in North America. Prerequisite(s): MUAG 4390, undergraduate organ literature.

- 5300. Apprenticeship in Organ Building.** 4 hours. Apprenticeship experience with an approved organbuilder. Apprentice to gain experience in several areas of organbuilding, including tuning, voicing, design, windchest construction, action regulation and general service work. Prerequisite(s): completion of 20 hours towards the Master of Music degree with a major in performance and a concentration in organbuilding. *Pending approval of MM in Organ Building by the Texas Higher Education Coordinating Board.*
- 5360. Instrumental Pedagogy and Repertoire.** 3 hours. Study and analysis of instrumental literature; correlation of literature and pedagogical materials; survey of schools of performance and instruction; brass, percussion, keyboard, strings and woodwinds. May be repeated for credit as topics vary.
- 5390. Studies in Organ/Harpsichord Literature, Pedagogy, Construction and Design.** 3 hours. For interests and talents of students; class and private conferences. Topics may include special problems in performance and literature, pedagogical materials and skills, correlations between literature and organ design, and organ and/or harpsichord maintenance. May be repeated for credit as topics vary.
- 5450. Introduction to Music and Medicine.** 3 hours. A general overview of the discipline of music medicine, including major contributions to the field, history, methodologies, practical performance, clinical and pedagogic applications. Prerequisite(s): admission to program.
- 5560. Advanced Piano Pedagogy and Musicianship.** 3 hours. Instructional techniques, materials, curriculum planning and philosophical basis for teaching piano and musicianship at the college and university levels with focus on group instruction. Prerequisite(s): MUAG 4260 and 4270, or equivalent. Field experience required.
- 5570. Comparative Piano Pedagogy and Repertoire.** 3 hours. Instructional techniques, repertoire, curriculum planning and philosophical basis for teaching piano performance at the high school and undergraduate collegiate levels. Prerequisite(s): MUAG 4260 and 4270, or equivalent. Field experience required.
- 5600. Advanced Science and Pedagogy of Singing.** 3 hours. Advanced literature on research in singing; laboratory instrumentation; practical studio procedures for building and equalizing the singing voice. Topics include vocal abuse and misuse, fitness for singers, and the psychology of singing and teaching of singing. Studio observations and practice in teaching. Prerequisite(s): MUAG 4300 or consent of college.
- 5610. Comparative Pedagogy of Singing.** 3 hours. Comparison of Western pedagogical models from the bel canto period (1685–1825) to the present and of current national styles. Formulation of teaching strategies harmonious with the common ideals of Western artistic voice culture. Prerequisite(s): MUAG 5600 or consent of college.
- 5640. Operatic Acting.** 1–3 hours. Analysis and preparation of roles, exercises in pantomime, improvisation, visualization and concentration.
- 5650. Opera Stage Direction.** 3 hours. Prerequisite(s): MUAG 5640 or MUEN 3040 (two terms/semesters), and consent of college.
- 5660. Studies in Opera Repertoire.** 3 hours. Extensive analysis and background study of representative operas from one of the following periods: beginnings through Mozart, 19th-century Italian and French opera, 19th-century German and Russian opera, and 20th-century opera. Guided research on individual projects. May be repeated for credit as topics vary.
- 5800. Advanced Choral Conducting.** 3 hours. Class is organized as an a cappella choir for performance practice; manipulating the group and the music. Prerequisite(s): MUAG 3820 or equivalent.
- 5810. Choral Literature.** 3 hours. Topics in choral music, organized by period and/or genre. Score study, listening, performance practice, technical demands and rehearsal requirements. Course content varies each term/semester. May be repeated for credit.
- 5850. Advanced Instrumental Conducting.** 3 hours. Exercises to develop coordination of mind and hands; techniques of noted conductors; musical terms; score reading and actual conducting. Prerequisite(s): MUAG 3800–3870 and consent of instructor. Audition required.
- 5860. Wind Instrument Ensemble Literature.** 3 hours. A comprehensive survey and study of the important wind repertoire for large and smaller instrumental ensembles. Topics include programming, analysis, interpretation, rehearsal problems and performance style.
- 5890. Topics in Music Performance and Pedagogy.** 1–3 hours. Selected topics in music performance and pedagogy that are not met by the regular offerings. Short courses and workshops on specific topics organized on a limited-offering basis. May be repeated for credit.
- 5900–5910. Special Problems.** 1–3 hours each.
- 6260. Piano Literature.** 3 hours. Baroque and classical periods; recordings and student performances.
- 6270. Piano Literature.** 3 hours. Romantic period to present; recordings and student performances.
- 6280. Vocal Literature.** 3 hours. Solo literature from 1509 to 1750; stylistic analysis and historical significance.
- 6290. Vocal Literature.** 3 hours. Solo literature from 1750 to present; stylistic analysis and historical significance.
- 6360. Instrumental Literature.** 3 hours. Solo works for the student's major instrument.
- 6370. Instrumental Literature.** 3 hours. Chamber and orchestral works for the student's major instrument.
- 6380. Organ Literature.** 3 hours. To 1750.
- 6390. Organ Literature.** 3 hours. From 1750 to present.
- 6450. Advanced Music and Medicine Seminar.** 3 hours. (2;1) Seminar involving conducting and completing a term/semester-long project utilizing the research, clinical, and/or educational resources for the Texas Center for Music and Medicine. Prerequisite(s): MUAG 5450.
- 6640. Opera Production.** 3 hours. Choosing repertoire, securing materials, translation, budget planning and promotion. Prerequisite(s): MUAG 5650 and consent of college.
- 6850. Advanced Score Reading and Interpretation (Band and/or Orchestra).** 3 hours. Analysis of works of various styles and periods to determine interpretive dimensions, rehearsal and baton techniques. Conducting experience provided with performing organizations. Prerequisite(s): examination and consent of college. Course content varies each term/semester.
- 6900–6910. Special Problems.** 1–3 hours each.

Applied Private Lessons, Music, MUAM; MUAC; MUAS

Curriculum requirements in Music Applied Private Lessons for majors (MUAM) are 3–4 credit hours per term/semester; for concentrations (MUAC), 2 credit hours per term/semester; for secondaries and electives (MUAS), 1 credit hour per term/semester. Exceptions to these requirements must have the consent of the dean of the College of Music.

5501-5533. Master's-Level Applied Music, Private Lessons. Variable credit: for majors (MUAM), 1–5 semester hours; for concentrations (MUAC), 1–3 semester hours; for secondaries and electives (MUAS), 1–2 semester hours. Fee required.

- 5501. Piano.
- 5502. Organ.
- 5503. Voice.
- 5504. Violin.
- 5505. Viola.
- 5506. Cello.
- 5507. Double Bass.
- 5508. Flute.
- 5509. Oboe.
- 5511. Clarinet.
- 5512. Saxophone.
- 5513. Bassoon.
- 5514. French Horn.
- 5516. Trumpet.
- 5517. Trombone.
- 5518. Euphonium.
- 5519. Tuba.
- 5521. Percussion.
- 5522. Harp.
- 5523. Functional Piano. (MUAS only)
- 5524. Vocal Coaching. (MUAS only)
- 5526. Jazz Guitar. (MUAC only)
- 5527. Guitar.
- 5528. Harpsichord.
- 5529. Improvisation at the Organ. (MUAS only)
- 5531. Keyboard Continuo Playing. (MUAS only)
- 5532. Early Instruments. (MUAC and MUAS only)
- 5533. Conducting. (MUAM only)

6501-6533. Doctoral-Level Applied Music, Private Lessons. Variable credit: for majors (MUAM), 1–5 semester hours; for concentrations (MUAC), 1–3 semester hours; for secondaries and electives (MUAS), 1–2 semester hours.

- 6501. Piano.
- 6502. Organ.
- 6503. Voice.
- 6504. Violin.
- 6505. Viola.
- 6506. Cello.
- 6507. Double Bass.

- 6508. Flute.
- 6509. Oboe.
- 6511. Clarinet.
- 6512. Saxophone.
- 6513. Bassoon.
- 6514. French Horn.
- 6516. Trumpet.
- 6517. Trombone.
- 6518. Euphonium.
- 6519. Tuba.
- 6521. Percussion.
- 6522. Harp.
- 6524. Vocal Coaching. (MUAS only)
- 6527. Guitar.
- 6528. Harpsichord.
- 6533. Conducting. (MUAM only)

Chamber Music, MUCM

- 5510. String Chamber Music. 1 hour. (0;2)
- 5520. Woodwind Chamber Music. 1 hour. (0;2)
- 5530. Brass Chamber Music. 1 hour. (0;2)
- 5540. Percussion Chamber Music. 1 hour. (0;2)
- 5550. Jazz Chamber Music. 1 hour. (0;2)

Composition, Music, MUCP

- 5180. Secondary Composition.** 2–3 hours. Development of contemporary compositional techniques and styles. Prerequisite(s): 6 hours of undergraduate composition or consent of division. For non-composition majors. May be repeated for credit.
- 5185. Concentration Composition.** 2–3 hours. Composition in larger forms for various media. For students with a related field or concentration in composition. May be repeated for credit. Prerequisite(s): 6 hours of undergraduate composition or consent of division.
- 5190. Master's Composition.** 2–3 hours. Composition in larger forms for various media. May be repeated for credit. Prerequisite(s): Bachelor's degree in composition or equivalent. Restricted to students who have been admitted to the MM program in composition.
- 5320. Orchestration.** 3 hours. Historical survey of orchestration practices, with emphasis on contemporary approaches. Creation of original works or transcriptions for orchestra. Score study and rehearsal attendance required. Prerequisite(s): MUCP 4310 or equivalent; consent of division. Primarily for composition majors. (Same as MUCP 4320.)
- 5460. Contemporary Music.** 3 hours. Study of recent music emphasizing experimental compositional trends. Listening, score study and analysis. Prerequisite(s): consent of division. (Same as MUCP 4460.)
- 5580. Contemporary Performance Practices.** 3 hours. Study of twentieth- and twenty-first century performance practices, including innovative notations, extended instrumental techniques, and approaches to interpretation. Prerequisite(s): MUCP 5460, MUMH 5343, or equivalent.

5590. Intermedia Performance Arts. 2 hours. (2;2) Introduction to intermedia performance art through class performance, repertoire analysis, historical context and readings of critical texts. Production of and performance in individual and group projects in the presentation of intermedia compositions, emphasizing computer music media and utilizing the resources of the Merrill Ellis Intermedia Theater. Open to graduate students in music and other relevant fields in the arts, humanities and sciences. Must be taken concurrently with MUEN 5595.

5670. Introduction to Electro-Acoustic Music. 3 hours. Theory, principles and practice of electro-acoustic composition. Includes weekly studio time. Prerequisite(s): 6 hours of composition or consent of division. (Same as MUCP 4670.)

5680. History and Technology of Electroacoustic Music. 3 hours. Study of synthesis and studio processing, both historically and in current practice. Course projects focus on electroacoustic music applications, practical exercises, and original compositions. (Meets with MUCP 4680 when taught as "History and Technology of Electroacoustic Music.") Prerequisite(s): MUCP 5670 or equivalent.

5690. Topics in Electroacoustic Music. 3 hours. Advanced studies in electroacoustic music focusing on compositional techniques, interactive systems, software tools, hardware design, performance practices, and analytical approaches. May be repeated for credit. Prerequisite(s): MUCP 5680 or equivalent.

5900-5910. Special Problems. 1–3 hours each.

6190. Doctoral Composition. 2–3 hours. Composition project of substantial scope. Prerequisite(s): master's degree in composition or equivalent. Restricted to students who have been admitted to the DMA program in composition. May be repeated for credit.

6200. Advanced Computer Music Research. 3 hours. Individually directed computer music research project, including such topics as algorithmic composition, software design, advanced synthesis and interactive systems. Prerequisite(s): approved research topic proposal and consent of division. May be repeated for credit.

6465. Topics in Contemporary Music. 3 hours. Specialized seminars on selected topics in contemporary music including the works of selected composers, counterpoint, analytical techniques, notation, pitch and temporal structures, timbre and texture, aesthetics, and psychoacoustics. Prerequisite(s): MUCP 5460 or equivalent; satisfactory scores on the Graduate Placement Examination or equivalent graduate courses.

6900-6910. Special Problems. 1–3 hours each.

Education, Music, MUED

5100. Music Supervision. 3 hours. Organization and duties; improving instruction; demonstration teaching; public department curricula. Supervisor's relation to community; ethics.

5120. Applied Research in Music Education. 3 hours. Theories, techniques and procedures for conducting and understanding research related to human musical behaviors. Open to students in fields other than music. Required for all master's degree students in music education.

5280. Admission Seminar. 3 hours. Survey of current trends and problems in music education. Evaluation of the student's qualifications, providing a basis for construction of a degree plan. Required for all master's degree students in music education.

5300. Instrumental Techniques: Band and Orchestra. 3 hours. Organization of public school bands, orchestras and instrumental programs. Purchase and care of instruments. Conducting; rehearsals and instrumental classes; program building; contests and festivals. May be repeated for credit as topics vary.

5500. History of Music Education in the United States. 3 hours. From 1620 to present; leading personalities, indigenous and black music, musical trends and concepts in music education.

5510. Philosophical Foundations and Principles of Music Teaching. 3 hours. Analysis of education objectives in music as related to practical concerns of the music teacher; justifications and rationales for music instruction in public schools.

5520. Psychology of Music. 3 hours. Physical factors that constitute musical sound and how these factors are perceived; methods and techniques for measuring musicality in individuals; psychology of learning as applied to music and musical behavior.

5821. Kodaly Concept Musicianship. 1 hour. Skill-based comprehensive study of musical basis of Kodaly-inspired music instruction; pentatony; modes; functional harmony; conducting; ensemble. May be repeated for credit when topics vary. Required concurrent enrollment in MUED 5822 and MUED 5823.

5822. Kodaly Concept Musical Materials. 1 hour. Study of folk music sources, repertoire, styles; transcription and analysis; developing classification and retrieval systems for classroom use; art music in the elementary school. May be repeated for credit when topics vary. Requires concurrent enrollment in MUED 5821 and MUED 5823.

5823. Kodaly Concept Pedagogy and Practicum. 1 hour. Philosophy, principles, pedagogy of Kodaly-inspired approach to music education with emphasis on sequential skill development Grades K–1; Grades 2–3; Grades 4–6; advanced studies. May be repeated for credit as topics vary. Requires concurrent enrollment in MUED 5821 and MUED 5822.

5831. Orff-Schulwerk Ensemble and Pedagogy. 1 hour. Philosophy, principles, instructional strategies of Orff-Schulwerk approach to music education using unpitched and barred instruments in elemental style; pentatonic music-improvisation and orchestration; modal music-improvisation and orchestration; diatonic music-improvisation and orchestration. May be repeated when topics vary. Requires concurrent enrollment in MUED 5832 and MUED 5833.

5832. Orff-Schulwerk Movement. 1 hour. Movement principles, concepts, vocabulary, instructional strategies, repertoire and improvisation; dance forms, accompaniment; movement notation and pedagogy. May be repeated for credit when topics vary. Requires enrollment in MUED 5831 and MUED 5833.

5833. Orff-Schulwerk Recorder. 1 hour. Study of soprano recorder; alto recorder; tenor, bass recorder. May be repeated for credit when topics vary. Requires concurrent enrollment in MUED 5831 and MUED 5832.

5840. Studies in Contemporary Music Education. 3 hours. Organized classes specifically designed to accommodate the needs of students and the demands of program development not met by regular offerings. Short courses and workshops on specific topics organized on a limited-offering basis, to be repeated only upon demand. May be repeated for credit when topics vary.

5880. Teaching Strategies in General Music at Pre-School, Elementary and Middle School Levels of Instruction. 3 hours. For each term/semester this organized class is offered, one topic from the list below is studied in depth; instructional methodologies, materials and activities in vocal music for the pre-school, elementary and middle school student; general music at the middle school level; instrument study for the general music student; curriculum development and instruction to meet the needs of the disabled, mentally challenged and gifted students. May be repeated for credit when topics vary.

5900-5910. **Special Problems.** 1–3 hours each.

6430. Principles of Music Learning. 3 hours. Principles of music learning with specific attention to the process of learning musical skills and concepts. Included are the application of such learning theories as behaviorism and developmentalism to music, and such specific musical learning theories as those of Gordon, Orff, Kodaly and Suzuki.

6440. Systematic Measurement of Music Behaviors. 3 hours. Measurement with specific applications to the field of music, including music achievement, attitude preference, aptitude, perception, interaction, and music teacher behavior and effectiveness. Principles of measure creation, administration and analysis. Prerequisite(s): MUED 5120 or consent of college. Required of all doctoral candidates in music education.

6470. Sociology of Music. 3 hours. The interrelationship of music and society in the United States. Current uses of music; musical professions; economic aspects of music; research in the sociology of music.

6480. Doctoral Seminar in Music Education. 1 hour. Current trends, concepts, programs and practices. Two terms/semesters required of all doctoral candidates in music education. Pass/no pass only.

6490. Comparative Music Education. 3 hours. Identification and comparison of music education systems, programs and practices in selected countries throughout the world; critical review of cross-cultural research related to the field.

6520. Analysis and Criticism of Research Studies. 3 hours. Critical investigation of selected research studies in music and music education for purposes of evaluating research techniques, studying research designs and establishing validity of conclusions. Prerequisite(s): MUED 5120 or MUMH 5410, and knowledge of elementary statistics. Required of all doctoral candidates in music education.

6580. College Teaching of Music Courses. 3 hours. Principles of organization and instruction for courses in music theory, music education, music literature and history, and applied music. Taught by specialists in each of the fields.

6590. Practicum, Field Problem or Internship. 3 hours. Supervised professional activities in music teaching, conducting, supervision and administration in public departments, junior colleges or senior colleges. The course allows for experimentation in the classroom or rehearsal hall during on-the-job or in-service training periods.

6620. Music, the Arts and the Humanities. 3 hours. Elements and symbols in the creative aspects of the performing and visual arts; objectives and instructional procedures appropriate for courses in music appreciation, integrated arts and aesthetic education; the arts as a part of liberal arts education. Open to graduate students in all academic disciplines.

6900-6910. **Special Problems.** 1–3 hours each.

Ensembles, Music, MUEN

5040. Graduate Opera Theater. 1 hour. (0;6) Techniques of preparing and performing major roles. Prerequisite(s): consent of college. May be repeated for credit.

5530-5540. Collegium Musicum. 1 hour each. (0;3) Performance of less well-known vocal and instrumental music from the period 1200–1800. Prerequisite(s): consent of college.

5585. NOVA Ensemble. 1 hour. (0;3) Performance of contemporary chamber works for mixed ensembles. Prerequisite(s): consent of college; audition required.

5595. Intermedia Performance Arts. 1 hour. (0;1) Performance component of MUCP 5590, to be taken concurrently.

5602. Brass Ensembles. 1 hour. (0;3)

5605. Chamber Wind Ensemble. 1 hour. (0;3)

5611. Jazz Ensembles. 1 hour. (0;2)

5616. Chamber Orchestra. 1 hour. (0;3)

5617. Percussion Ensembles. 1 hour. (0;2)

5621. String Ensembles. 1 hour. (0;2)

5624. Vocal Ensembles. 1 hour. (0;3)

5625. Wind Ensembles. 1 hour. (0;2)

5630. Harp Ensemble. 1 hour. (0;3)

Ethnomusicology, Music, MUET

5030. Music Cultures of the World. 3 hours. (3;1) Selected survey of music cultures of the world. Examination of musical traditions from a perspective that emphasizes music as an integral part of society and culture.

5040. Ethnomusicology Studies Abroad. 3–6 hours. Study and experience music cultures in their traditional settings. Field school locations include Africa, India and China. On-site visits to celebrations, ceremonies and rituals are combined with instruction by traditional musicians and guest lectures by cultural bearers. Musical traditions are studied from a perspective that emphasizes participant-observation. Open to majors from all fields of study. No formal musical training required. May be repeated for credit as topics/locations vary.

5050. Music of Africa. 3 hours. Study of musical experience in African life. How does music function in everyday life, in ritual and ceremony? When does music happen and for what reasons? What are the social and political horizons of musical events? How has musical experience changed in contemporary life? These questions will be explored in relation to African music, ranging from the complex vocal polyphony of the Mbuti Pygmies of the Itui Forest to the worldwide explosion of Afro Pop. Open to majors of all fields. No formal musical training is needed to successfully complete this course.

5060. African-American Music. 3 hours. Exploration of the experiences of blacks in the Americas vis-à-vis music. In particular, critical examination of the long trajectory of “black music” in the United States, making reference first to its West African antecedents. Consideration of ways that the term “black music” is deployed politically and its appropriateness as a descriptive and analytical category. Exploring the permeability of the sacred and secular in African American cultural experience, we will interrogate the musical, philosophical, and behavioral links between a Saturday night crowd and a Sunday morning people.

5070. Studies in Asian Music. 3 hours. Historical developments and current issues in Asian music. Select music cultures are studied from an ethnomusicological perspective. May be repeated for credit as topics vary.

5080. Studies in Latin American Music. 3 hours. Study of the traditional and popular music of Latin America in its cultural context using theoretical approaches of ethnomusicology and related disciplines. Countries and topics may vary. May be repeated as topics vary.

5090. Music of India. 3 hours. (3;1) Development of Indian Music from Vedic times to the present day. The course will present an overview of North Indian classical music, a detailed study of South Indian classical music systems, and a selected survey of folk music from different regions of India.

5210. Seminar in Ethnomusicology. 3 hours. Selected topics in ethnomusicology: current theoretical and practical issues in the discipline. May be repeated for credit as topics vary.

5220. Ethnomusicology Field and Research Methods. 3 hours. Exploration of the relationship between shifting theoretical research paradigms and how they have affected field methodology. Close readings of representative ethnographies, several short field assignments and reports, and a field research project, resulting in a final paper.

5230. Ethnomusicology Transcription and Analysis. 3 hours. History of musical transcription in ethnomusicology; theoretical approaches to sound recordings and their analysis; practical instruction in transcription, including technological applications.

5617. African Music and Movement. 1 hour. Study of selected African drum music and development of related traditional movement skills through studio performance. Movement will be compared and contrasted with various African dance styles, while exploring their cultural basis, recreational and social uses, and artistic and educational values. May be repeated for credit.

5900. Ethnomusicology Special Problems. 3 hours. Special problems in ethnomusicology.

General Courses, Music, MUGC

5555. Introduction to Music Entrepreneurship.

3 hours. (2;1) Workshop in the creation, management, and promotion of nonprofit and for-profit musical enterprises. Interdisciplinary studies include introductions to the professional music world, techniques of business management, and use of media for promotion. Practical group projects provide experience building real business plans and marketing strategies.

5890. Studies in Music. 1–3 hours. Organized classes specifically designed to accommodate the needs of students and the demand of program development that are not met by the regular offerings. Short courses and workshops on specific topics organized on a limited offering basis. May be repeated for credit.

5900-5910. Special Problems. 1–3 hours each. For graduate students of unusual ability in music who may elect to study material not formally listed for instruction.

5930. Research Problem in Lieu of Thesis. 3 hours. Prerequisite(s): MUMH 5410.

5941. Graduate Artist Certificate Recital. 3 hours. (0;1) Registration only by consent of major professor. Recital requirement or those seeking the Graduate Artist Certificate in Music Performance. Prerequisite(s): Consent of major professor.

5942. Graduate Artist Certificate Recital. 3 hours. (0;1) Registration only by consent of major professor. Recital requirement for those seeking the Graduate Artist Certificate in Music Performance. Prerequisite(s): Consent of major professor.

5943. Graduate Artist Certificate Recital. 3 hours. (0;1) Registration only by consent of major professor. Recital requirement for those seeking the Graduate Artist Certificate in Music Performance. Prerequisite(s): Consent of major professor.

5944. Graduate Artist Certificate Recital. 3 hours. (0;1) Registration only by consent of major professor. Recital requirement for those seeking the Graduate Artist Certificate in Music Performance. Prerequisite(s): Consent of major professor.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of college. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

6900-6910. Special Problems. 1–3 hours each. For doctoral students of unusual ability in music who may elect to study material not formally listed for instruction.

6941. Graduate Artist Certificate Recital. 3 hours. (0;1) Registration only by consent of major professor. Recital requirement for those seeking the Graduate Artist Certificate in Music Performance. Prerequisite(s): Consent of major professor.

6942. Graduate Artist Certificate Recital. 3 hours. (0;1) Registration only by consent of major professor. Recital requirement for those seeking the Graduate Artist Certificate in Music Performance. Prerequisite(s): Consent of major professor.

6943. Graduate Artist Certificate Recital. 3 hours. (0;1) Registration only by consent of major professor. Recital requirement for those seeking the Graduate Artist Certificate in Music Performance. Prerequisite(s): Consent of major professor.

6944. Graduate Artist Certificate Recital. 3 hours. (0;1) Registration only by consent of major professor. Recital requirement for those seeking the Graduate Artist Certificate in Music Performance. Prerequisite(s): Consent of major professor.

6950. Doctoral Dissertation. 3, 6 or 9 hours. Registration only by consent of college. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

6951. Dissertation Recital. 3 hours. Prerequisite(s): consent of major professor. Open only to DMA students in performance.

6952. Dissertation Recital. 3 hours. Prerequisite(s): MUGC 6951 and consent of major professor. Open only to DMA students in performance.

6953. Dissertation Recital. 3 hours. Registration only by consent of major professor. Prerequisite(s): MUGC 6951 and 6952; admission to candidacy; and consent of major professor. Open only to DMA students in performance.

6954. Dissertation Recital. 3 hours. Registration only by consent of major professor. Prerequisite(s): MUGC 6951, 6952 and 6953; admission to candidacy; and consent of major professor. Open only to DMA students in performance.

Music History and Literature, and Musicology, MUMH

5010. Introduction to Research in Music. 3 hours. Introduction to research techniques and application.

5020. Introduction to Musicology. 3 hours. Critical assessment of current issues, methodologies and themes in musicological research. Prerequisite(s): MUMH 5010 or consent of college.

5110. History of Opera. 3 hours. Examination of selected topics in the history of opera. Topics vary by term/semester.

5120. History of the Symphony. 3 hours. In-depth examination, at the graduate level, of the history of the symphony. Specific topics vary by term/semester.

5150. Music Criticism and the Aesthetics of Music. 3 hours. Nature of music; relation to architecture, painting, literature and sculpture; design, craftsmanship and criteria in music composition.

5330. Studies in Music History: Medieval, Renaissance or Baroque. 3 hours. Historical, stylistic and analytical study of music from one of the following periods: Medieval, Renaissance, Baroque. Period offerings rotate by term/semester. Lectures with required listening.

5331. Western Music History, 750–1400. 3 hours. Historical, stylistic and analytical study of music, 750–1400.

5332. Western Music History, 1400–1600. 3 hours. Historical, stylistic and analytical study of music, 1400–1600.

5333. Western Music History, 1600–1700. 3 hours. Historical, stylistic and analytical study of music, 1600–1700.

5340. Studies in Music History: Classical, Romantic or 20th Century. 3 hours. Historical, stylistic and analytical study of music from one of the following periods: Classical, Romantic, 20th century. Period offerings rotate by term/semester. Lectures with required listening.

5341. Western Music History, 1700–1800. 3 hours. Historical, stylistic and analytical study of music, 1700–1800.

5342. Western Music History, 1800–1900. 3 hours. Historical, stylistic and analytical study of music, 1800–1900.

5343. Western Music History, 1900 to the Present. 3 hours. Historical, stylistic and analytical study of music, 1900 to the present.

5430. Music in Latin America. 3 hours. Examination of selected topics in the history of music by Latin American composers. Topics vary by term/semester.

5440. Music in the United States. 3 hours. Examination of selected topics in the history of music in the United States. Topics vary by term/semester.

5550. History of Musical Instruments. 3 hours. Musical instruments in Western culture from the earliest times; their evolution, influence and use in the central European tradition. Taxonomy, acoustics, design and construction, musical and organological literature.

5610. Improvisation and Ornamentation 1500–1800. 3 hours. Improvisation and ornamentation practices of the Renaissance, Baroque and classical periods. Students write and perform ornamentations weekly. Prerequisite(s): admittance to MM in musicology, DMA or MM related fields in early music or permission of instructor.

5711. Seminar in Musicology. 3 hours. Practical application of musicological techniques to selected research areas; a proseminar.

5900-5910. Special Problems. 1–3 hours each.

6000-6010. Notation. 3 hours each. From 1200 to 1600 A.D.; transcriptions by the student into modern notation. Prerequisite(s): MUMH 5330 or examination.

6020. Medieval Music. 3 hours. Seminar on selected topics in medieval music. Prerequisite(s): MUMH 5330 or examination.

6030. Renaissance Music. 3 hours. Seminar on selected topics in Renaissance music. Prerequisite(s): MUMH 5330 or examination.

6080. Chamber Music. 3 hours. Historical, analytical and aesthetic studies of selected chamber music. Prerequisite(s): MUMH 5340 or examination.

6160. Major Composers. 3 hours. Historical, analytical and aesthetic studies of a selected major composer. Prerequisite(s): MUMH 5340 or examination.

6520. Performance Practice: Medieval/Renaissance. 3 hours. Study of medieval and Renaissance performance practices. Prerequisite(s): consent of college.

6530. Performance Practice: Baroque. 3 hours. Study of baroque performance practices. Prerequisite(s): consent of college.

6540. Performance Practice: 1750 to Present. 3 hours. Study of classical, romantic and 20th-century performance practices. Prerequisite(s): consent of college.

6610. Direction of University Early Music Ensembles. 3 hours. Philosophies, techniques, instruments and maintenance, sources, and programming for directing early music ensembles at the collegiate level. Prerequisite(s): admittance to PhD in musicology or permission of instructor.

6740. Baroque Music. 3 hours. Seminar on selected topics in baroque music. Prerequisite(s): MUMH 5330 or examination.

6750. Classical Music. 3 hours. Seminar on selected topics in classical music. Prerequisite(s): MUMH 5340 or examination.

6760. Music of the Romantic Era. 3 hours. Seminar on selected topics in 19th-century music. Prerequisite(s): MUMH 5340 or examination.

6770. Music of the Twentieth Century. 3 hours. Seminar on selected topics in 20th-century music. Prerequisite(s): MUMH 5340 or examination.

6900-6910. Special Problems. 1–3 hours each.

Jazz Studies, Music, MUJS

5440. Introduction to Research in Jazz Studies. 3 hours. Bibliography, discography, interviewing; sociocultural aspects of research on jazz; scholarly writing; connections between jazz studies and musicology, ethnomusicology, and related disciplines. Prerequisite(s): MUJS 4470 or consent of college.

5450. Studies in Jazz History. 3 hours. A survey of jazz research materials and methodology, and presentation of special topics in jazz history. Prerequisite(s): MUJS 4470 or consent of college.

5470. Conducting College Jazz Ensembles. 3 hours. Score study and rehearsal preparation; methods of conducting jazz ensembles at all levels; supervised conducting.

5480. Pedagogy of Jazz Improvisation. 3 hours. Techniques, systems and materials. Prerequisite(s): MUJS 3360 and 3370, or consent of college.

5490. Advanced Jazz Improvisation. 3 hours. Advanced techniques and practices of jazz improvisation. Prerequisite(s): MUJS 3370 with grade of A or B, or equivalent.

5540. Radio TV Music. 3 hours. (4:2) Composition and production of music for broadcast and digital media. Prerequisite(s): MUJS 3610 or consent of department.

5760. Jazz Arranging. 3 hours. Individual instruction. An advanced practical study of arranging, focusing on music from jazz and other contemporary jazz-related styles. Prerequisite(s): MUJS 4620 or equivalent. May be repeated for credit as topics vary.

5780. Jazz Styles and Analysis. 3 hours. The stylistic elements of the various eras of jazz history; theoretical analysis of significant musical qualities of influential musicians of the different periods of jazz.

5900-5910. Special Problems. 1–3 hours each.

Music Laboratories, MULB

5171. **Large Ensemble: Choir.** 1 hour. (0;4)
 5172. **Large Ensemble: Orchestra.** 1 hour. (0;4)
 5173. **Large Ensemble: Band.** 1 hour. (0;4)
 5174. **Large Ensemble: Jazz Lab Band.** 1 hour. (0;4)
 5175. **Large Ensemble: Accompanying.** 1 hour. (0;4)

Theory, Music, MUTH

5080. **Pedagogy of Theory.** 3 hours. Concepts and methodologies relative to the teaching of music theory in the core curriculum; compilation of teaching materials. Prerequisite(s): satisfactory score on Graduate Placement Examination, or MUTH 5381, 5382 and 5383.
5090. **Problems in Pedagogy of Theory.** 3 hours. Observation, practice and supervised teaching of freshman/sophomore large-lecture, classroom and lab courses. Prerequisite(s): MUTH 5080. May be repeated for credit as teaching assignments vary.
5110. **Score Reading at the Keyboard.** 1 hour. Practical application of figured bass and score reading at the keyboard from two parts (C and Bass and Treble clefs) to the classic period symphony.
5355. **Analytical Techniques I (Ars Antiqua–1700).** 3 hours. Application of appropriate analytical approaches and methodologies in music written 900–1700. Prerequisite(s): satisfactory score on the Graduate Placement Examination, or MUTH 5381, 5382 and 5383.
5360. **Analytical Techniques II (1700–1900).** 3 hours. Application of appropriate analytical approaches and methodologies in music written 1700–1900. Prerequisite(s): satisfactory score on the Graduate Placement Examination, or MUTH 5381, 5382 and 5383.
5370. **Analytical Techniques III (Post 1900).** 3 hours. Application of appropriate analytical approaches and methodologies in music written after 1900. Prerequisite(s): satisfactory score on the Graduate Placement Examination, or MUTH 5381, 5382 and 5383. MUTH 5360 recommended. MUTH 4520 or consent of instructor.
5381. **Music Theory Practicum: Analysis.** 1 hour. (2;0) Theoretical principles of music from the 17th through early 20th centuries and their application through analysis.
5382. **Music Theory Practicum: Aural Skills.** 1 hour. (2;0) Theoretical principles of the 17th through early 20th centuries and their application through aural comprehension.
5383. **Music Theory Practicum: Keyboard.** 1 hour. (1;0) Theoretical principles of the 17th through early 20th centuries and their application through realization at the keyboard.
5400. **Invertible Counterpoint and Fugue.** 3 hours. Advanced techniques in contrapuntal writing in 18th-century style. Prerequisite(s): MUTH 3420; satisfactory score on the Graduate Placement Examination, or MUTH 5381, 5382 and 5383.
5470. **Advanced Schenkerian Analysis.** 3 hours. Advanced analysis of tonal music according to the theory of structural levels and methods of graphic analysis developed by Heinrich Schenker. Prerequisite(s): MUTH 4370; satisfactory score on the Graduate Placement Examination, or MUTH 5381, 5382 and 5383.
5720. **Computer-Assisted Instruction in Music.** 3 hours. Survey of computer-assisted instruction (CAI) systems for music. Development of programming and evaluative skills necessary to develop complete CAI systems for music instruction. Prerequisite(s): CSCE 5013, CECS 5110 or CSCE 5933; satisfactory score on the Graduate Placement Examination, or MUTH 5381, 5382 and 5383.
- 5900-5910. **Special Problems.** 1–3 hours each.
6500. **Form and Style Analysis I.** 3 hours. Identification of structural principles and compositional idioms characteristic of historical eras and representative composers from Ars Antiqua through the early baroque. Prerequisite(s): satisfactory score on the Graduate Placement Examination, or MUTH 5381, 5382 and 5383.
6510. **Form and Style Analysis II.** 3 hours. Identification of structural principles and compositional idioms characteristic of historical eras and representative composers from the late baroque through the 20th century. Prerequisite(s): satisfactory score on the Graduate Placement Examination, or MUTH 5381, 5382 and 5383.
6660. **History of Music Theory.** 3 hours. Theoretical systems and treatises from antiquity to the late 15th century and analysis of related compositions. Prerequisite(s): MUMH 5010 or 5020 (concurrent enrollment is acceptable), or equivalent; satisfactory score on the Graduate Placement Examination, or MUTH 5381, 5382 and 5383.
6670. **History of Music Theory.** 3 hours. Theoretical systems and treatises from the 16th to early 18th century and analysis of related compositions. Prerequisite(s): MUMH 5410 or 5420 (concurrent enrollment is acceptable), or equivalent; satisfactory score on the Graduate Placement Examination, or MUTH 5381, 5382 and 5383.
6680. **Proseminar in Music Theory.** 3 hours. Investigation and research; subject matter variable to meet needs of students. Prerequisite(s): satisfactory score on the Graduate Placement Examination, or MUTH 5381, 5382 and 5383. May be repeated for credit as topics vary.
6700. **Analytical Systems I (1700–1900).** 3 hours. Examination of analytical systems from the middle works of Rameau to the harmonic theories of Riemann, Schenker and Schoenberg. Prerequisite(s): MUTH 5360, and MUMH 5010 or 5020 (concurrent enrollment is acceptable), or equivalent.
6710. **Analytical Systems II (Post 1900).** 3 hours. Examination of analytical systems in the 20th century. Prerequisite(s): MUTH 5370, and MUMH 5010 or 5020 (current enrollment is acceptable), or equivalent.
- 6900-6910. **Special Problems.** 1–3 hours each.

Music/Education

see Music

Music/Laboratories

see Music

Musicology, Music History and Literature

see Music

Nuclear Engineering Technologysee *Undergraduate Catalog*

Philosophy and Religion Studies

Philosophy, PHIL

5110. Seminar in the Theory of Knowledge. 3 hours. Analysis of the essential problems involved in the theory of knowledge, including some of the classical answers to important epistemological problems.

5250. Seminar in the Philosophy of Natural Science. 3 hours. A study of the nature, limits and significances of physics, chemistry, biology and related sciences with emphasis on the similarities and contrasts between scientific and other modes of knowing.

5260. Seminar in Philosophy of Social Science. 3 hours. Questions on explanations, observable human purposes and science of valuation. Contrasting science, ideology and occultism. Darwinism as conceptual scheme. The “causal” status of symbols and verbal behavior. Debates about objectivity, *Verstehen*, phenomenology and behaviorism, referring to K. Popper, G. Nettle, L.A. White, B.F. Skinner, C. Geertz, T. Kuhn, P. Winch and M. Weber.

5315. Topics in Ancient Philosophy. 3 hours. An examination of some major problem areas in the history of ancient Western philosophy — for example: concepts of nature, concepts of the character and function of knowledge, concepts of the nature and extent of value. Major thinkers normally covered include Plato and Aristotle.

5335. Topics in Modern Philosophy. 3 hours. An examination of some major problem areas in the history of modern Western philosophy — for example: concepts of nature, concepts of the character and function of knowledge, concepts of the nature and extent of value. Major thinkers covered can include Descartes, Spinoza, Locke, Hume and Kant.

5410. Seminar in Ethical Theory. 3 hours. An examination of a variety of ethical theories and their application in applied situations.

5450. Seminar in the Philosophy of Ecology. 3 hours. Traces the evolution of ecology from its roots in 19th-century natural history through general ecology, restoration ecology, human ecology and mathematical ecology. Also explores the sociocultural contexts in which ecology emerged and now exists, including the so-called second scientific revolution and the two-culture split.

5451. Environmental Ethics. 3 hours. Examination of basic positions in the field of environmental ethics with emphasis on legal and moral rights for nature, animal liberation, and Western philosophical and religious traditions.

5600. Philosophy of Religion. 3 hours. Examination of arguments for and against the existence of a deity; meaning of concepts of religion, evil, good and worship; impact of religious beliefs and commitments on social and moral life.

5670. Natural History and Philosophy of Rivers. 6 hours. (3/5) Ecological, geological and philosophical history of arid watersheds of the western United States. Extended field trip required. Desert canyons are geologically unique and present wonderful opportunities to study interactions of geology, fauna, flora, environment, cultural development and environmental ethics. Prerequisite(s): consent of instructor. (Same as BIOL 5670.)

5700. Seminar in Environmental Ethics. 3 hours. An intensive analysis of new positions in environmental ethics with special emphasis on their theoretical value as a contribution to contemporary philosophy and their practical value with regard to environmental policy and decision making.

5710. Ecofeminism: Women's Studies and Environmental Ethics. 3 hours. Examines the merger of feminism with environmental ethics and its subsequent evolution. Subject matter includes the analysis of patriarchy, gender issues and multicultural perspectives within the larger framework of ethical responses to ecocrisis.

5720. Comparative Environmental Ethics. 3 hours. An exploration of resources for environmental philosophy in non-Western traditions, focusing on India but including Taoist and Buddhist traditions.

5730. Western Religion and the Environment. 3 hours. A historic and contemporary overview of Euro-American religious thought concerning the environment, including investigation of the ancient Western religions, Judaism, Christianity and Native American religions.

5800. Seminar in Symbolic Logic and Metamathematics. 3 hours. Review of the history, development and present status of symbolic logic and metamathematics, including a consideration of the problems encountered in the philosophical interpretation of logical concepts.

5900-5910. Special Problems. 1–3 hours each. Prerequisite(s): consent of department.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on the thesis has begun. May be repeated for credit.

5960. Seminar in Problems of Philosophy. 3 hours. Intensive analysis of major philosophical issues against the background of classical and contemporary investigations. May be repeated for credit.

6100. Aesthetics. 3 hours. Examination of principles of value and aesthetics proposed by representative artists and philosophers.

6120. Social and Political Philosophy. 3 hours. Examination of the relation among philosophical ideas and community, natural rights, justice, freedom and authority.

6350. Metaphysics. 3 hours. Examination of problems that arise from attempts to give an account of reality and its manifestations: possibility and necessity, causality, the nature of events, mind-body and universals.

6620. Existentialism. 3 hours. Examination of the place of man in the world and his relation to problems of authenticity, anxiety and forlornness. Kierkegaard, Nietzsche, Heidegger and Sartre.

6900-10. Special Problems. 1–3 hours. Research by doctoral students in fields of special interest. Prerequisite(s): consent of department.

6950. Doctoral Dissertation. 3, 6, 9 hours. To be scheduled only with consent of department. 12 hours required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for administration for admission to candidacy. May be repeated for credit.

6960. Seminar in Problems in Philosophy. 3 hours. Intensive analysis of major philosophical issues against the background of classical and contemporary investigations. May be repeated for credit as topics vary.

Physical Education

see *Undergraduate Catalog*

Physics

Astronomy – see *Undergraduate Catalog*

Physics, PHYS

5450. Survey of Solid State Physics. 3 hours. A course designed to acquaint the student with the major areas of solid state physics. Simple models and physical insight to solid state phenomena are stressed. Intended for physics students of all specializations. Topics include crystal structure, crystal symmetry, reciprocal lattice, X-ray diffraction, crystal binding, phonons and lattice vibrations, thermal properties, free electron theory, semiconductors, superconductivity and magnetic properties. Prerequisite(s): PHYS 4110.

5500. Quantum Mechanics I. 3 hours. Fundamentals of quantum theory. Foundations of wave mechanics, wavepackets and the uncertainty principles. Schroedinger equation, one-dimensional problems, operators and eigenfunctions, three-dimensional problems, angular momentum and spin.

5510. Quantum Mechanics II. 3 hours. Scattering theory; spin, angular momentum; WKB and variation method; time-independent and time-dependent perturbation theory; identical particles; applications; relativistic waves equations. Prerequisite(s): PHYS 5500.

5610. Selected Topics in Modern Physics. 3 hours. Selected topics of contemporary interest in physics. Prerequisite(s): consent of department. May be repeated for credit as topics vary with consent of department chair.

5700. Computational Physics. 3 hours. Symbolic and numerical evaluation of single-variable and multi-variable integrals with a single line of programming; symbolic evaluation of derivatives; symbolic manipulation of lists including vectors and matrices; data analysis; multidimensional plots; symbolic derivations; symbolic and numerical solutions to single and multiple, linear and nonlinear, differential and partial differential equations; probability densities and Monte Carlo methods; and random walk and classical trajectory simulations.

5710. Advanced Classical Mechanics I. 3 hours. Variational principles and Lagrange's equations. Central force problem. Rigid body motion. Hamilton's equations; canonical variables and transformations; action-angle variables; Hamilton-Jacobi theory. Prerequisite(s): PHYS 3220 or consent of department.

5720. Electromagnetic Theory I. 3 hours. Maxwell's equations, vector, scalar potentials; gauge transformations; wave equation; conservation theorems; boundary conditions; statics. Non-dissipative media and dispersion; dissipative media; reflection and refraction; guided waves. Prerequisite(s): PHYS 4210 and 6000 (concurrent), or consent of department.

5750. Selected Topics in Materials Physics. 3 hours. Topics from specialized areas of materials science, physics, chemistry. Integrated circuit fabrication and materials. Transmission electron microscopy. May be repeated for credit as topics vary.

5900-5910. Special Problems. 1–6 hours each. Special problems in advanced physics for graduate students. Problem chosen by the student with the approval of the supervising professor and the department chair.

5920-5930. Research Problems in Lieu of Thesis. 3 hours. An introduction to research; may consist of an experimental, theoretical or review topic.

5940. Seminar in Current Literature of Physics. 1–3 hours. Reports and discussion one hour a week. Required each term/semester of all graduate students in physics.

5941. Colloquium. 1 hour. Weekly lectures by faculty and invited guests on topics of current interest in contemporary physics.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

5960-5970. Science Institute. 1–6 hours each. For students accepted by the university as participants in special institute programs. May be repeated for credit, not to exceed a total of 6 hours in each course. Laboratory fee required.

5980-5990. Special Problems. 1–3 hours each. Special problems in advanced physics for graduate students. Problem chosen by the student with the approval of the supervising professor.

6000. Mathematical Methods of Physics I. 3 hours. Complex variables, Laurent series, contour integration, integral transformations, dispersion relations, approximations methods, ordinary differential equations. Legendre, Bessel functions. Sturm-Liouville theory, eigenvalue problem. Green's functions. Prerequisite(s): PHYS 3310.

6001. Mathematical Methods of Physics II. 3 hours. Floquet theory, Mathieu and Hill equations, elliptic functions, vector spaces and Hilbert spaces, linear operators and elements of spectral theory. Green's functions, integral equations, non-linear wave equations and approximation techniques. Prerequisite(s): PHYS 6000.

6010. Advanced Classical Mechanics II. 3 hours. Non-linear dynamics; chaos; fractals; classical field theory; hydrodynamics and non-linear waves. Prerequisite(s): PHYS 5710.

6030. Electromagnetic Theory II. 3 hours. Waves in plasma; waves in inhomogeneous, anisotropic and non-linear media. Radiation and diffraction; particle radiation and energy loss in matter. Scattering. Multipole fields. Covariant formulation and classical field theory. Prerequisite(s): PHYS 5720.

6110. Statistical Mechanics I. 3 hours. Equilibrium classical and quantum statistical mechanics and thermodynamics with applications to real gases, liquids, solids, spin systems and phase transitions. Prerequisite(s): PHYS 4110 and 5510.

6120. Statistical Physics. 3 hours. Non-equilibrium classical and quantum statistical mechanics, including Boltzmann equations, BBGKY hierarchy, transport theory and dielectric properties of systems; fluctuations and irreversible processes. Prerequisite(s): PHYS 6110 or consent of department.

6155. Communication in Scientific Teaching and Research. 3 hours. Basics of technical writing; techniques for seeking and obtaining research funding; research proposal writing; research presentations; research publications; job applications and interviewing; the workings and organization of academic institutions, government agencies and private industry.

6160. Introduction to Scattering Theory I. 3 hours. Partial waves; effective range theory; integral equation approach; resonances; bound states; Variational and R-Matrix methods. Emphasis on applications. Prerequisite(s): PHYS 5510.

6161. Introduction to Scattering Theory II. 3 hours. Time-dependent potential scattering, the general theory of collisions, electron-ion collisions, resonances, ion-ion collisions, ion-atom collisions, density matrix formulation and atoms in intense fields. Emphasis on applications.

6330. Atomic and Molecular Physics I. 3 hours. Atomic, molecular structure; construction of periodic table. Experimental basis. One-, few- and many-electron systems; Hartree-Fock, Thomas Fermi methods; inner and outer shell phenomena. Prerequisite(s): PHYS 5510.

6340. Atomic and Molecular Physics II. 3 hours. Applications of scattering theory. Born approximation, phase shifts, effective range theory; density operator; scattering and transition matrices. Interaction of large and weak EM fields with matter. Laser spectroscopy. Prerequisite(s): PHYS 6330.

6450-6460. Advanced Solid State Physics. 3 hours each. A two-course sequence designed to prepare graduate students for research in several areas of current interest in solid state physics. Topics include lattice vibration and phonon spectra; band theory, including calculational schemes, symmetry considerations and application to metals and semiconductors; optical and magnetic properties of solids. Prerequisite(s): PHYS 5510 and 5450, or consent of department.

6500-6510. Advanced Quantum Theory. 3 hours each.

6500. Dirac and Heisenberg formalisms, second quantization and quantum theory of radiation. Dirac equation and its applications. Prerequisite(s): consent of department.

6510. Quantization of Dirac, Klein-Gordon fields, interactions, S-matrix theory, perturbation theory and applications. Prerequisite(s): PHYS 6500 or consent of department.

6750. Selected Topics in Theoretical Physics. 3 hours.

Advanced topics selected from areas of theoretical and mathematical physics, including relativity, field theory, elementary particles and the many-body problem. Prerequisite(s): consent of department. May be repeated for credit as topics vary.

6800. Selected Topics in Solid State Physics. 3 hours.

Advanced topics selected from specialized areas of solid state physics. Prerequisite(s): consent of department. May be repeated for credit as topics vary.

6900-6910. Special Problems. 1–3 hours each. Special problems in experimental or theoretical physics for advanced graduate students. Problem chosen by the student with the approval of the supervising professor.

6940. Individual Research. 1–12 hours. To be scheduled by the doctoral candidate engaged in research. May be repeated for credit.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

5310. Proseminar in Political Theory. 3 hours. Explores the variety of concepts, research, analytical methods and literature drawn from leading scholars in various areas of the field.

5340. Seminar in Political Science Scope and Methods. 3 hours. Concepts, trends and research design in political science.

5350. Topics in Political Theory. 3 hours. Study of selected theorists or themes in political philosophy. Seminar may include works of ancient, medieval or modern theorists, focusing on issues of power and justice, human nature and politics, and the nature of the best political system. Themes might include liberalism and conservatism, ethics and international politics, or American political thought. May be repeated for credit as topics vary.

5420. Proseminar in Public Administration. 3 hours.

Concepts, research, analytical methods and literature drawn from leading scholars in various areas of the field.

5610. Proseminar in Comparative Government. 3 hours.

Concepts, research, analytical methods and literature drawn from leading scholars in various areas of the field.

5650. Seminar in Area Studies. 3 hours. The institutions and processes of the major regional areas of the world: Africa, Asia, Europe, the former Soviet Union, Western Europe, Latin America and the Commonwealth. May be repeated for credit as topics vary.

5810. Proseminar in International Relations. 3 hours.

Concepts, research, analytical methods and literature drawn from leading scholars in various areas of the field.

5820. Seminar in International Relations. 3 hours. Selected problems and concepts related to the theory and practice of international politics, international law, and organization and foreign policy. May be repeated for credit as topics vary.

5900-5910. Special Problems. 1–3 hours each. Conference courses open to advanced students capable of doing independent research under the direction of the instructor. Prerequisite(s): consent of department chair.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

6000. Research Seminar. 3 hours. Specialized study and research in the field of political science. May be repeated for credit.

6100. Political Science Teaching and Research. 3 hours.

Classroom methods for political science instruction, as well as basic research and job-hunting skills. Pass/no pass. May be repeated for credit as topics vary. Hours may not count toward graduate degree plans.

6320. Quantitative Political Research Methods. 3 hours.

Empirical research design and contemporary statistical applications in political science, including an introduction to the use of computers. An undergraduate introductory statistics course would be useful prior to registering for this course.

6340. Time Series Methods for Political Data. 3 hours.

Focuses on methods for analyzing dynamic relationships among political variables. Topics include pooled cross-sectional time series designs, ARCH, ECM, State-Space, VAR and Box-Jenkins-Tiao intervention-transfer function models. Emphasis is placed on the application of these methodologies using mainframe and microcomputer programs such as BMDP, MICROCRUNCH, RATS and SPSS PC + TRENDS. Prerequisite(s): PSCI 6320 or consent of instructor.

Political Science

Political Science, PSCI

5020. Proseminar in American Government and Politics. 3 hours. Concepts, research, analytical methods and literature drawn from the leading scholars in the various areas of the field.

5050. Seminar in American Government and Politics. 3 hours. Analysis of pertinent government and political problems confronting the American people on the national, state and local levels. May be repeated for credit as topics vary.

5220. Proseminar in Public Law. 3 hours. Concepts, research, analytical methods and literature drawn from leading scholars in various areas of the field.

5230. Seminar in American Public Law. 3 hours. The legal framework within which American governmental processes operate; analysis of substantive legal rules and basic processes by which law is made and applied. May be repeated for credit as topics vary.

6900-6910. Special Problems. 1–3 hours each. Conference courses for doctoral students. Directed reading and research in fields of special interest. Prerequisite(s): consent of department.

6930. Individual Research. 1–12 hours. Independent doctoral research prior to comprehensive examinations. May be repeated for credit. Pass/no pass only. Prerequisite(s): approval of graduate adviser.

6940. Practicum. 3–6 hours. Pre-dissertation independent research, under faculty supervision. May be repeated for credit up to 6 hours. Partially fulfills the tool requirement. Prerequisite(s): must be near completion of course work.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

Psychology

Psychology, PSYC

5010. Psychology of Human Development. 3 hours. An integrated rather than specialized view of the biophysical, socio-cultural, psychoemotional and intellectual development of human beings in Western culture. Development is viewed as a product of the interaction of genetic endowment with the environment.

5030. Advanced Research Design. 4 hours. (3;3) Principles and techniques of analysis of variance and covariance, experimental designs with applications to randomized groups, factorial, Latin-square, trend analysis and other standard schemes. Experience in laboratory techniques, data collection, data analysis and interpretation. Prerequisite(s): PSYC 5700 or equivalent.

5040. Cultural Aspects of Health: A Behavioral Medicine Approach. 3 hours. Conceptual frameworks for understanding factors that influence patterns of health (psychological, biological and social) in persons from different cultures. Presents a behavioral medicine perspective of health and disease and illustrates their unique and common elements in sociopolitical and environmental contexts.

5050. Seminar in Psychology: Current Issues. 1–4 hours. Issues and topics of current interest to students in the various graduate programs but not covered by course offerings. May be repeated for credit.

5060. Advanced History and Systems of Psychology. 3 hours. Philosophical and physiological roots of psychology; traditional historical systems, including structuralism, functionalism, behaviorism, Gestalt and psychoanalysis; relevance to major contemporary systems.

5070. Medical and Behavioral Disorders. 4 hours. (3;4) Drawing from the knowledge of diverse disciplines, students acquire an understanding of basic physiological functions, their psychological basis and ecological factors that comprise the matrix of person-environment interaction. A concept of health is offered that integrates mind, body and environment and resulting pathological states when this balance is disrupted. Students learn to interact with medical providers to promote a more integrative view of the person. Prerequisite(s): consent of department.

5090. Advanced Social Psychology. 3 hours. A survey of the constructs, methodologies and theories of social psychology including social perception, attitudes, aggression, prejudice, prosocial behavior, conformity, leadership, groups and communication. Prerequisite(s): enrollment in a graduate program in psychology or consent of department.

5100. Psychopathology of Childhood. 3 hours. Normal and psychopathological development in children, focusing on intellectual, emotional and behavioral deviations and their recognition, as well as background in their etiology, dynamics and prognosis. Prerequisite(s): PSYC 5010 or its equivalent, or consent of department.

5121. Sport and Exercise Psychology. 3 hours. An in-depth study of analysis techniques necessary for scientific investigations in exercise and sport. Emphasis is placed on computer applications, advanced data analysis, techniques and interpretation of resulting analyses. (Same as KINE 5121.)

5131. Exercise and Health Psychology. 3 hours. Introduces students to health, leisure and exercise behavior change strategies, and provides knowledge and skills necessary to improve the initiation and adherence of lifetime health and physical activity behaviors among individuals and groups. Offers a comprehensive inquiry into individual behaviors and lifestyles that affect physical and mental health from health promotion, exercise science and psychological perspectives. Topics include enhancement of health, identification of health risk factors, prevention and treatment of disease, improvement of the health care system and shaping of public opinion with regard to health and physical activity. Prerequisite(s): a course in sport psychology or consent of department. (Same as HLTH 5131 or KINE 5131.)

5171. Social Psychology of Sport. 3 hours. The effects of social psychological variables on motor behavior. Topics include social facilitation, social reinforcement, organized youth sports, socialization, group dynamics and leadership. (Same as KINE 5171.)

5181. Applied Sport Psychology. 3 hours. Psychological techniques and strategies for enhancing athletic performance, including imagery, arousal regulation, attentional control, goal setting and self-talk. Practical issues, ethical considerations and coaching athlete-organization interface are addressed. Prerequisite(s): PSYC 5121. (Same as KINE 5181.)

5200. Psychology of Women and Gender. 3 hours. Theories and research on women and gender; psychological, situational, cultural, environmental and biological influences; the influence of gender biases on research methods and interpretation of results; application of theory and research to problems affecting women. Prerequisite(s): minimum of 6 hours of undergraduate psychology.

5230. Personnel Psychology. 3 hours. Problems of personnel selection, job analysis, training, discrimination and appropriate statistical strategies. Prerequisite(s): knowledge of correlational statistics.

5240. Psychological Assessment of Individuals in Organizations. 4 hours. (3;3) This course provides supervised experience in the application of individual psychological assessment techniques to personnel selection problems in business and industry. Assessment of individuals' skills, abilities and occupationally relevant personality structure, using objective, projective and behavioral measures as well as assessment centers and biographical data procedures. Feedback techniques and ethical issues also are reviewed. Prerequisite(s): enrollment in a graduate program in psychology, PSYC 5420 or equivalent, and concurrent or prior enrollment in PSYC 5230.

5300. Psychosocial Issues in HIV/AIDS. 3 hours. Examines the psychosocial factors that are related to health-related behaviors in both healthy people and people living with HIV/AIDS. Prepares students who expect to pursue careers in health service fields (e.g., psychologists, physicians, biologists, dentists, etc.) to be conscious of issues that HIV positive people face daily. Students interested in HIV/AIDS as a social phenomenon are encouraged to enroll. (Same as PSYC 4300.)

5340. Life-Span Developmental Psychology. 3 hours. An examination of developmental behavioral change across the human life span. Special concern is given to the conceptual and empirical bases for such change, with an emphasis on measurement and antecedents. More specific treatments of content areas (e.g., learning, memory, intelligence, personality, stress and coping, mental illness, and death and dying) constitute an integral part of the course.

5350. Counseling for Sexual Dysfunction and Other Psychosexual Disorders. 3 hours. A study of the origins and treatment of sexual dysfunctions and other psychosexual disorders. The study includes physical and psychological considerations in etiology, diagnosis and treatment.

5420. Psychological Assessment I. 4 hours. (3;3) Introduction to and an overview of psychological assessment models, techniques and data collection systems for individuals, groups and organizations with a focus on the assessment of individuals. Emphasis will be on interviews, behavioral observation and tests of intelligence (Wechsler Scales, Stanford-Binet, Illinois Test of Psycho-linguistic Abilities and group intelligence tests); including administration, scoring, interpretation and report writing. Prerequisite(s): admission to a graduate degree program in psychology. Students who have had a similar course without laboratory credit will be required to enroll in a special problems laboratory. Offered fall term/semester only.

5440. Employee Counseling. 3 hours. A practical and theoretical course dealing with the implementation and operation of employee counseling and employee assistance programs in organizations. Combines counseling and organizational psychology with some emphasis on job stress.

5470. Occupational Information and Analysis. 3 hours. The methods of collecting, filing and using information about occupations, education and related areas. An analysis of current materials concerning employment conditions and opportunities, job requirements and training facilities.

5540. Groups in Work Settings. 3 hours. A practical and theoretical course dealing with all forms of work groups. Theories from organizational and social psychology provide a context for skill building related to work team training and development and basic research.

5580. Introduction to Marriage and Family Therapy. 3 hours. Survey of methods and techniques used in the treatment of marital and family problems, and a professional orientation with particular emphasis on legal and ethical implications in the practice of marriage and family counseling. Prerequisite(s): PSYC 5590 or equivalent, or consent of department.

5590. Psychological Aspects of Marital and Family Interaction. 3 hours. Examination of pathological and healthy marital and family systems and subsystems, including marital stress points, parent-child interaction, family development and the implications of these considerations for marriage counseling and parent training.

5620. Psychological Assessment II. 4 hours. (3;3) Focuses on methods of assessing an individual's achievement, aptitude, interests and personality. Considers objective and projective

techniques as well as individual and group approaches. Includes interviewing, administration, scoring, interpretation and report writing. Prerequisite(s): PSYC 5420. Students who have had a similar course without laboratory credit are required to enroll in a special problems laboratory. Offered spring term/semester only.

5640. Cognitive and Affective Bases of Behavior. 3 hours. Theories of research on social, psychological and biological dimensions of learning, cognition, affect, memory and motivation (e.g., culture, self-concept, perception, cognition, emotion, genotype and maturation). Prerequisite(s): PSYC 4690 or 4800 or equivalent, or consent of department.

5680. Counseling Psychology Methods. 3 hours. Introduction to counseling psychology and counseling methods.

5690. Legal and Ethical Issues in Professional Practice. 3 hours. An intensive overview of legal procedures, state regulation and ethical guides relevant to professional practice. Prerequisite(s): consent of department.

5700. Advanced Quantitative Methods in Psychology. 4 hours. (3;3) Includes a review of probability theory and elementary sampling statistics, a discussion of correlational theory and the application of several correlational techniques, a study of several methods appropriate for testing hypotheses about differences among several means, factorial designs in analysis of variance and some consideration of non-parametric procedures. Prerequisite(s): an introductory course in statistics.

5740. Consulting Psychology in Organizations. 4 hours. (3;5) Principles of psychological consultation in organizations. Reviews relevant psychological literature in organizational consulting and also provides supervised field experience in applying these principles to real-world problems. Prerequisite(s): consent of instructor and completion of PSYC 5750.

5750. Organizational Psychology. 3 hours. A psychological approach to organizations, including theories of the nature of the worker, group processes and training, communication, attitudes, motivation and models of leadership.

5780. Advanced Psychopathology. 3 hours. A critical analysis of the classificatory systems, etiology and treatment of psychopathological behavior, with a view toward a sophisticated appreciation of the contemporary status and prospectus of this subject domain. Prerequisite(s): PSYC 4610 and 5010 or equivalents, or consent of department.

5790. Advanced Physiological Psychology. 3 hours. Fundamentals of physiological psychology, including basic neurophysiological laboratory techniques and a survey of current research with an in-depth study in one research area by each student. Prerequisite(s): PSYC 4640 or its equivalent, or consent of department.

5820. Practicum in Psychological Assessment. 1–3 hours. Administer, synthesize, evaluate and communicate the results of psychological tests under supervision in various assessment settings approved by psychology faculty. Prerequisite(s): grade of B or better in PSYC 5420 and 5620 (or consent of department); cumulative B average; no deficiencies; approved degree plan. Open only to graduate students in psychology. May be repeated for credit.

5831-5832. Psychological Methods Practicum. 1–3 hours each. Supervised practicum in a mental health services delivery agency. Experiences vary with mission and population served by the agency. Prerequisite(s): B or better in at least 6 hours of PSYC 5820 and/or recommendation of program committee. Open only to graduate students in psychology. May be repeated for credit.

5840. Psychometric Theory. 3 hours. Systematic treatment of the logic of measurement, including such topics as scaling models, validity, variance and covariance, reliability, theories of measurement error and test construction. Prerequisite(s): PSYC 5700.

5850. Sport and Exercise Psychology Practicum. 1–3 hours. Supervised active participation in sport and exercise psychology activities within a sport or health-related agency/organization. Prerequisite(s): consent of department.

5860. Seminar on the Psychology of Aging. 3 hours. Theoretical and research literature concerned with the psychological aspects of aging. Age-related changes in sensation, perception, learning, cognition and personality are considered from both a conceptual and methodological perspective as they bear on adjustment to late adulthood. Prerequisite(s): PSYC 5010 or advanced study in developmental psychology. May be repeated for credit as topics vary. (Same as AGER 5860.)

5880. Psychological Appraisal. 3 hours. (3;3) Group tests and scales used in the measurement of educational achievement, aptitude, intelligence, interest and personality; administering, scoring and interpreting tests in these areas.

5890. Psychological Counseling for Late Maturity and Old Age. 3 hours. Study of the predictable and normal dependencies of aging; techniques of individual, family and group counseling applied to later life, with emphasis on problems of retirement, health and bereavement. (Same as AGER 5890.)

5900-5910. Special Problems. 1–4 hours each. Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor. Open only to resident students.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

6000. General Introduction to Psychotherapy. 3 hours. Major models of therapy that emphasize an emotional or cognitive approach to corrective experience. Emphasis on analytic and humanistic theories and techniques, as well as the empirical evidence underlying them. Prerequisite(s): consent of department.

6020. Child Psychotherapy. 3 hours. Theories, techniques and methods of psychotherapy with children. Emphasis on working with a child within the context of the family system. Prerequisite(s): open only to doctoral students in clinical and counseling psychology.

6060. Seminar in Group Psychotherapy. 3 hours. An overview of the use of group psychotherapy. The course involves experience as the leader of a therapeutic or “quasi-therapeutic” group. Prerequisite(s): PSYC 6000; for doctoral candidates in clinical and counseling psychology.

6100. Psychopharmacology. 3 hours. Review of basic principles of pharmacology, major classes of psychoactive drugs, drug side effects, drug interactions and risk-benefit considerations in the use of prescription medications. Practical and ethical issues for the health professional are addressed. Prerequisite(s): consent of instructor.

6110. Professional Issues in Behavioral Medicine Consultation. 3 hours. Issues facing health psychologists practicing in behavioral medicine settings. Themes focus on malpractice risks related to health services, including managed health care; privacy, consent and access to hospital records; quality assurance, quality control and mechanisms

of review; interdisciplinary relationships, hospital privileges, multiple codes of ethics/legal constraints and hierarchical levels of professional responsibility for medical regimes; medical liaison consultation with under-served populations; and anticipating issues for the health psychology/behavioral medicine practitioner. Prerequisite(s): consent of department.

6120. Advanced Psychotherapy Techniques. 3 hours. (2;1) Demonstrations and experiential exercises intended to help the student develop proficiency in a wide range of intervention techniques, including Socratic dialogue, imagery, free recall, role playing, therapeutic writing, relaxation training, dream work and self-awareness exercises. Prerequisite(s): consent of instructor.

6130. Assessment and Treatment of Substance Abuse. 3 hours. History of alcohol and drug use across cultures and the emergence of distinctions, sanctions and prohibitions. The major categories of psychotropic substances are reviewed, along with their chemical and behavioral effects. Characteristics of users and abusers are discussed. Various treatment approaches and their effectiveness are evaluated. Prerequisite(s): consent of instructor.

6150. Marriage and Family Therapy I. 3 hours. (3;1) Examines health and dysfunction in the couple and family systems. Major theories of marital and family therapy is reviewed and several are examined and applied in depth. Emphasis is placed on psychological assessment of the family as a behavioral system, including administration, scoring and interpretation and report writing. Prerequisite(s): PSYC 5420 or the equivalent, or consent of department.

6160. Marriage and Family Therapy II. 3 hours. (3;1) Combines didactic instruction with applied intervention and supervision. Focuses on the application of principles of psychological counseling to facilitate constructive changes in the couple and family systems. Students conduct couple/family assessments and therapy, and receive ongoing weekly supervision. Prerequisite(s): PSYC 6150 or the equivalent, or consent of department.

6200. Advanced Topics Seminar in Psychology. 1–3 hours. Issues and topics of current interest and importance in psychology not covered by current course offerings. Prerequisite(s): consent of department. May be repeated for credit.

6240. Assessment Center Methodology. 3 hours. Introduction to the assessment center method. Students learn how to plan, coordinate, and conduct both developmental and selection oriented assessment centers. Topics areas include basic requirements of assessment centers, dimensions and competencies to be assessed, types of assessment exercises, feedback and evaluation. Prerequisite(s): PSYC 5740.

6300. Theory and Application of Multicultural Counseling. 3 hours. Focuses on increasing understanding and appreciation of human diversity. Survey of different world views, cultural values and treatment strategies for addressing needs of individuals from unique racial/ethnic backgrounds, religious affiliations and sexual orientations. Prerequisite(s): consent of instructor.

6340. Organizational Climate and Culture. 3 hours. Examination of current theory and research in the fields of organizational climate and organizational culture as they pertain to employees experiencing the organizational environment. Topics discussed include the similarities and differences between the climate and culture perspectives, influence of employee perceptions on individual and organizational behavior, societal impact on organizational climate and culture, and methods used to assess and to change climate and culture. Prerequisite(s): PSYC 5750 or equivalent, or consent of department.

6350. Pediatric Psychology. 3 hours. Medical and psychological issues related to childhood illnesses with specific intervention strategies, sample protocols and case examples of many of the childhood disorders encountered in pediatric psychology settings. Focuses on recent advances and research on early childhood diseases; chronic conditions such as asthma, arthritis, diabetes, hemophilia, inflammatory bowel disease, lupus and seizure disorders; potentially fatal illnesses such as cancer, cystic fibrosis and AIDS; traumatic injuries, including burns, head injuries and spinal cord injuries; and special issues such as anorexia and bulimia, somatoform disorders, and suicide. Coverage includes strategies for consultation/liason services, assessing and developing interventions including pain management; treatment adherence and compliance; educating and supporting the patient, family and staff.

6400. Research Methodology Applications. 3 hours. Introduction to research methodology in psychology. Includes measurement theory, latent construct theory, experimental and quasi-experimental design, overview of data analytic strategies and power analysis. Focus on individual student projects. Prerequisite(s): consent of department.

6410. Psychopathology and Treatment of Adolescents and Young Adults. 3 hours. Intensive program, designed primarily for advanced students in clinical or counseling psychology, concerning the nature and causes of psychopathology in adolescents and young adults, as well as current theories and treatments. Prerequisite(s): consent of department.

6420. Neuropsychological Assessment. 4 hours. (3;1) Assessment of brain-behavior relationships frequently encountered in clinical settings, with particular emphasis on the Halstead-Reitan test battery for adults and the Reitan-Indiana test battery for children. Prerequisite(s): PSYC 5420 or equivalent, and consent of department.

6450. Advanced Psychodiagnostic Assessment. 4 hours. (3;3) Current advances in psychodiagnostic assessment emphasizing the core personality battery to evaluate diagnosis, indicate prognosis and inform treatment planning, especially recommendations for psychotherapy. Includes the scientific basis for the selection and use of instruments given their different psychometric properties. Emphasizes consolidation of students' competence with projective methods and the integration of findings across different assessment techniques. Prerequisite(s): PSYC 5620.

6460. Diagnostic and Structured Interviewing: Advanced Assessment Techniques. 4 hours. (3;3) Emphasis will be on theory and applied training with structured and semi-structured interview methods for diagnosis (SADS and SCID), as well as the more focused evaluations of psychopathology. Prerequisite(s): PSYC 5620.

6480. Professional Ethics in Clinical Psychology. 3 hours. Intensive seminar of professional ethics and legal issues confronting clinical psychology. In addition to a theoretical grounding, students are asked to grapple with ethical quandaries via training experiences that include analysis of clinical and legal cases; role playing of ethical and professional-practice dilemmas; and participation in a mock oral examination of ethical and legal issues. Prerequisite(s): a PhD student in psychology and consent of instructor.

6520. Forensic Psychology: Theory and Practice. 3 hours. Combined theoretical and applied emphasis will provide specialization in forensic psychology. The seminar includes criminal (e.g., insanity and sentencing) and civil (e.g., malpractice and personal injury) topics. Prerequisite(s): PSYC 5620 or 5880, or consent of department.

6570. Developmental Health Psychology. 3 hours. Health and illness are explored from a developmental perspective. Psychological symptoms are discussed from a cause/effect perspective along with contributions of psychosocial variables. Medical and behavioral interventions are discussed.

6610. Psychology Research Seminar and Practicum. 4 hours. Will focus on the initiation, conduct and consummation of advanced research projects, as well as dialogues related to the art and practice of publishing. The purpose of the practicum is twofold: to engender an appreciation for scholarship and to engage students in research projects that have a high probability of resulting in journal publications. Prerequisite(s): doctoral standing in psychology. May be repeated for credit.

6640. Theoretical Basis of Counseling Practice. 3 hours. Advanced examination of underlying theory of counseling practice, including review of cultural, analytic and brief therapy influences on treatment applications. Prerequisite(s): consent of department.

6650. Psychoneuroimmunology. 3 hours. Combines information from psychology, endocrinology, immunology and physiology, and the way these relate to disease and/or health. Emphasis is placed on human psychological stress, distress, and immunity and related neuroendocrine pathways. Prerequisite(s): PSYC 5790 or equivalent.

6670. Personality. 3 hours. Analysis and applications of the major personality theories, bodies of research, and current issues to understand personality, including the integration of limited domain theories to develop a model of the whole person.

6700. Psychodynamics. 3 hours. The development of intrapsychic processes and patterns of behavior as a part of adjustment to the stresses of life. Emphasis on defensive mechanisms and learned modes of coping with day-to-day problems. Both conscious and unconscious forces in motivation will be considered. Prerequisite(s): consent of department.

6710. Behavioral Toxicology. 3 hours. An examination of a range of environmental determinants that may be toxic to the human condition. Considers the implications of chemical exposure, overcrowding, nutrition, radiation and various pollutants to neuropsychological, behavioral, cognitive-emotional, other psychopathological processes and health risks.

6730. Strategic Applications of Industrial/Organizational Psychology. 3 hours. This is the capstone course for the doctoral program in industrial/organizational (I/O) psychology. The course utilizes all of the work done by a student in the program up to this point to prepare a plan of study for comprehensive exams and add new material that focuses on working strategically with organizations in introducing change. In addition, there is development of a career vision to guide selection of internship and dissertation emphases. Prerequisite(s): this is the final course in the I/O psychology doctoral program, so all other required I/O courses in the degree program must be complete or taken concurrently.

6740. Organization Transformation. 3 hours. This course focuses on advanced consulting issues. It is a required course for advanced doctoral students in industrial/organizational psychology. The course deals with the challenges of planning, initiating, and guiding change in large work systems. Theoretical frameworks, value and assumptions, and practical issues of change are addressed. Prerequisite(s): this course is limited to advanced students in the I/O doctoral program. Students should have completed PSYC 5740 and two practicum courses.

6760. Psychotherapy Methods and Behavioral Medicine. 4 hours. (3;2) Systematically reviews theories of psychotherapy and related research. Special attention is given to the mind/body relationship and the role of biopsychosocial factors when developing treatment strategies for individuals confronting psychological and medical problems. Laboratory work includes supervised practice in the design and implementation of behavior change paradigms. Prerequisite(s): consent of department.

6810. Multivariate Procedures in Psychology. 3 hours. Multiple regression and factor analysis as applied to psychological research, theory and practical applications using statistical software. Background in statistics and statistical software desirable.

6820-6830. Practicum. 1–3 hours each. Readings, lectures and discussion to develop an appropriate level of knowledge (e.g., relationship of psychological science and practice, ethics, APA). Teaches technical skills necessary for a scientist-practitioner in the student's specialty. (e.g., empirically-based and evidence-based evaluation and intervention, assessment and consultation). Prerequisite(s): open only to students admitted to a graduate program in psychology. May be repeated for credit.

6840-6850. Clinical/Counseling Psychology Internship. 1–3 hours each. A required year-long field placement, 40 hours per week, for all doctoral students in clinical and counseling psychology. The internship is consistent with the objectives of the student's program and current professional practices in a variety of agencies, hospitals, medical schools or other internship settings. Prerequisite(s): completion of all concept and technical courses (including PSYC 6820-6830) on the degree program, and passage of the specialty exam in the area. Open only to PhD candidates in clinical and counseling psychology. Pass/no pass only.

6860. Industrial-Organizational Psychology Internship. 3 hours. A supervised field experience, minimum of 20 hours per week for 24 months or 35 hours per week for 12 months. Required of all doctoral students in industrial-organizational psychology. The internship is consistent with the objectives of the student's program and current professional practices in industrial-organizational psychology. Prerequisite(s): satisfactory progress toward the degree, and completion of 300 hours of pre-internship practicum experience.

6900-6910. Special Problems. 1–3 hours each.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

Public Administration

Emergency Administration and Planning – see *Undergraduate Catalog*

Public Administration, PADM

5010. Public Administration and Society. 3 hours. Examination of the political, institutional, organizational, ethical, social, legal and economic environments in which public administrators operate. Must be taken in the first term/semester of course work.

5020. Leading and Managing Public Organizations. 3 hours. Survey of contemporary theories and applications of managing high performance public organizations. Focus on leadership approaches, strategy, decision making, change management, networks and collaboration, privatization, and groups and teams. Prerequisite(s): PADM 5010 (may be taken concurrently).

5030. Managing Human Resources. 3 hours. The theory and application of managing human behavior in public organizations. Topics include motivation, supervision, conflict management, workplace diversity and the functions of public personnel systems including job design, analysis, and classification; recruitment and selection; compensation, development, training, and evaluation; promotion and discipline; and employee law. Prerequisite(s): PADM 5010 and 5020.

5035. Professional Practice for Public Managers. 3 hours. Capstone workshop that teaches current and future public managers how to operate a government agency on a day-to-day basis. Managerial practices to be covered include the meaning of public service, communication in the public sector, making effective presentations to legislatures and governing boards, group facilitation and effective meetings, executive-legislative relations, citizen relations, media relations, and ethics. To be taken during the last term/semester of course work. Prerequisite(s): completion of all other MPA core courses or consent of department.

5040. Nonprofit Management. 3 hours. Characteristics of and leadership in nonprofit organizations, with emphasis on the chief executive, the board and volunteers in activities such as governance, planning and fund raising.

5050. Legal Issues in Public Administration. 3 hours. Focuses on the relationship between public management and the law. Explores the role of bureaucrats in formulating law and policy through the rule-making process and the control of executive branch agencies by the executive branch, the legislature, and the courts.

5060. Seminar in Intergovernmental Relations. 3 hours. Analysis of political, administrative and fiscal relationships among governments in the American political system. May be repeated for credit as topics vary.

5065. Collaborative Public Management. 3 hours. Managing within public sector collaborative settings, including partnerships, intergovernmental management, networks, consortia, and contracts. Exposes students to the rapidly changing and multi-organizational nature of policy making and management in the public sector.

5100. Local Government Management. 3 hours. Organization and management of American local government, including executive leadership, governance structures and service implementation with emphasis on council-manager government.

5200. Public Personnel Management. 3 hours. Managing human resources in national, state and local governments.

5210. Diversity in Public Management. 3 hours. Focuses on diversity issues in modern public management. Examines the contemporary meaning of workplace diversity, the identification and evaluation of governmental policies, processes, and management techniques for promoting diversity, and the effect of workplace diversity on government performance. Emphasis is given to identifying effective techniques for managing diversity.

5220. Personnel Management in Nonprofit Organizations. 3 hours. Examines the uniqueness of personnel management in the nonprofit sector. Emphasis is on the concepts and techniques of, and the laws and ethical standards affecting nonprofit personnel management. This includes hiring, paying, supervising, motivating, developing, promoting, disciplining and retaining employees (paid or unpaid) in nonprofit and volunteer organizations.

5300. Introduction to Planning. 3 hours. Examination of state, regional and local government planning. Course explores planning theory, the planning process, managing planning, implementing plans and citizen participation.

5310. Economic and Community Development. 3 hours. The course examines the basic role of governance as an instrument of economic and community development in the United States. Focuses on the meaning and application of development primarily on subnational development with particular reference to cities and towns. Topics include economic development tools, politics of development, development financing, and development organizations.

5400. Managing Financial Resources. 3 hours. Principles of the budgetary process and innovations in budget preparation with emphasis on the role of the budget as a tool for financial control, improving program performance, and policy making. Topics include budget innovation, accounting and financial reporting.

5410. Capital Budgeting and Planning. 3 hours. Examination of capital budgeting and planning in government. Course explores the financial aspects of water and waste water utilities, roads and highways, airports, parks, storm water drainage and other infrastructure. Key dimensions of budgeting, planning and managing public works facilities are detailed through lectures, case studies and papers.

5420. Revenue Policy and Administration. 3 hours. Examination of the economic, political and administrative issues that governments encounter when making revenue decisions, including how to achieve equity, economic efficiency, and administrative feasibility. Topics include the three principal revenue sources of government – income, sales and property taxes – plus such non-tax sources as user charges, grants-in-aid and lotteries.

5430. Financial Accountability in Government. 3 hours. An introduction to financial control in government, including fund accounting, financial reporting, internal controls and auditing. Particular emphasis is given to the public manager's use of accounting information in such contexts as budget decision making, pricing government services, cash planning and municipal bond ratings.

5500. Administrative Research Methods I. 3 hours. Introduction to methods and techniques of applied research and statistical analysis. Topics include probability, descriptive statistics, estimation, hypothesis testing, contingency table analysis and regression analysis.

5510. Administrative Research Methods II. 3 hours. Course in program evaluation focusing on the practical application of appropriate social science research methodology to assess the effectiveness and efficiency of public and nonprofit sector programs and policies. Covers a broad range of topics on how to develop an evaluation plan; design various types of evaluations such as process, impact, cost-benefit, and cost-effectiveness evaluations; and how to manage evaluation projects. Prerequisite(s): PADM 5500.

5540. Public Decision Making Techniques. 3 hours. Examination of fundamental techniques used to assist public administrators in making decisions. Rationalism,

incrementalism, probability models, cost-benefit analysis, forecasting and other methods are explored. The theory and practice of each approach is presented, along with case studies that use each technique.

5550. Seminar in Program Evaluation. 3 hours. Advanced course in evaluation, performance measurement, and monitoring in the management of government programs. Uses methods of social science to evaluate the effectiveness of government services. Prerequisite(s): PADM 5510.

5560. Performance Measurement in Public and Nonprofit Sectors. 3 hours. Overview of the performance measurement process, including benchmarking and performance monitoring in public and nonprofit organizations. The overall objective of the course is to acquaint program administrators and other practitioners with conceptual tools essential to understanding the development of performance measurement systems and the techniques necessary to enable them to apply the concepts in their work environments. Emphasis is on the practical application of the techniques of performance measurement in field settings.

5610. Disaster Preparedness and Management. 3 hours. Examination of the theory and practice of emergency management. Particular emphasis is given to the major issues affecting emergency management, including strategies to promote planning for mitigating disasters. Emphasis is on the evolving role of the Federal Emergency Management Agency (FEMA), state and local government, and emergency managers in the disaster management arena.

5615. Environmental Planning and Hazards. 3 hours. Introduction to environmental planning and policy at the federal, state and local government levels. Designed to help students develop a working knowledge of basic planning and policy concepts, methods, institutions and issues. Emphasis is given to the linkage between environmental degradation and vulnerability to hazards.

5630. Principles of Health Administration. 3 hours. Acquaints students with the management and policy concepts essential to understanding the delivery and administration of health care services. It uses the systems framework to provide a comprehensive coverage of the various components of health care delivery in the United States. Focus on the application of administrative principles and processes to the understanding of three key issues in health policy and management: improving access, controlling costs and ensuring quality.

5700. Seminar in Public Administration. 3 hours. Concepts, problems and processes of public administration. May be repeated for credit as topics vary.

5800-5810. Public Management Internship. 3 hours each. Acquisition of practical public management experience through an arranged internship in a governmental or nonprofit agency for at least one term/semester. Periodic seminars, supervision and a final administrative report are required. Prerequisite(s): consent of department chair. Pass/no pass only.

5900-5910. Special Problems. 1–3 hours each. Conference courses open to advanced students capable of doing independent research under the direction of the instructor. Prerequisite(s): consent of department chair.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

- 6010. Seminar in Public Administration.** 3 hours. Introduction to the philosophy of science and evaluation of exemplary theoretical and empirical research on public administration. Attention is given to the evolution of public administration theory and practice in relation to historical trends and conditions, including related changes in social, political and management theory. Discussion of emergent trends and conditions relevant to the future development of public administration theory and practice.
- 6015. Public Organization Research and Theory.** 3 hours. Addresses organizations as units of analysis. Examination of major theoretical and empirical research on the structure and process of public organizations.
- 6020. Seminar in Public Management I.** 3 hours. Focus on management theory in the public sector. Includes historical development, major questions in theory and practice, managerial decision making and effectiveness. Prerequisite(s): PADM 6010 and 6015.
- 6025. Institutional Context of Public Administration.** 3 hours. Examines government bureaucracies and other formal institutional arrangements as key elements in modern social systems. Evaluates the role of society in shaping institutions and how these institutions influence and structure public policy making and administration.
- 6030. Seminar in Public Management II.** 3 hours. Focus on the study of public organization theory. Includes exploration of theoretical and empirical approaches to examining public and nonprofit organizations.
- 6400. Seminar in Public Financial Policy and Management.** 3 hours. Examines issues pertaining to the administration of financial resources in the public sector. Study of the issues from the perspectives of different disciplines such as: economics, political science, business administration, planning and public administration. Prerequisite(s): PADM 5400 and 5420 or equivalents.
- 6410. Seminar in Government Budgeting and Financial Management.** 3 hours. Examination of the history and development of budgeting and the processes used to manage financial resources at the local, state and federal levels of government in the United States. Topics include the effects of government fiscal affairs, primarily at the federal level, on the economy, and the problems associated with intergovernmental financial management.
- 6500. Analytical Methods for Public Administration Research.** 3 hours. Emphasizes public-sector applications of decision analysis, queuing theory, projection techniques, mathematical programming, economic base analysis, and simulation.
- 6520. Seminar in Public Policy Implementation.** 3 hours. An in-depth study of public policy with emphasis on the role of public administrators in the formation, adoption and implementation of public policy.
- 6530. Seminar in Public Policy Analysis and Program Evaluation.** 3 hours. Provides an overview of the substance and methodologies of policy research and will focus on the practical application of appropriate methodology to assess the effectiveness of public programs and policies. Prerequisite(s): PADM 6520.
- 6700. Workshop in Public Administration.** 1–3 hours. Specialized study on research in public administration. Students learn how to review and critique the relevant literature, how to present work at conferences, and how to write for journal publication.
- 6710. Seminar in Public Administration and Management.** 3 hours. Concepts, problems and processes of public administration. May be repeated as topics vary. Prerequisite(s): consent of department.

6900-6910. Special Problems. 1–3 hours. Conference courses for doctoral students capable of doing independent research under the direction of the instructor. Prerequisite(s): consent of department.

6940. Directed Research in Public Administration. 3 hours. Conference courses for doctoral students. Directed reading and research in fields of special interest. Prerequisite(s): consent of department.

6950. Doctoral Dissertation. 3 hours. To be scheduled only with consent of department. Twelve hours required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit. Prerequisite(s): consent of department.

Public Affairs and Community Service

Community Service, COMS

- 5100. Social Evolution of Contemporary Volunteerism.** 3 hours. An analysis and review of the social evolution of contemporary volunteerism from revolutionary times to the present. Study of the current issues, definitions and trends in the field of professional management. Introduction to social systems supporting or limiting volunteerism and volunteerism resources on the Internet. Students who have received credit for COMS 4100 may not take COMS 5100 for credit toward a degree.
- 5200. Leadership Theory and Practice for Public/Private Sector.** 3 hours. Overview of organizational leadership theory and practice for volunteer managers. Students examine and develop a range of skills in a number of interpersonal areas: group dynamics, decision making, managing differences, and leadership and influence.
- 5300. Proposal Writing and Grant Administration.** 3 hours. Basic steps of research funding ideas including how to use the Internet as a fundamental tool, and the detailed steps required for preparing funding applications. Focuses on the skills and tools needed to monitor funds once grants have been awarded. Students who have received credit for this course at the undergraduate level may not retake it for graduate credit.
- 5400. Volunteer Management Concepts and Applications.** 3 hours. Analysis and review of day-to-day applications of management principles to the administrative and operating practices of contemporary volunteer programs in the public, not-for-profit sectors. Focus on volunteer program management and organization including targeting, recruiting, training, supervising, motivating, counseling, retaining and recognizing volunteer workforces. Students who have received credit for this course at the undergraduate level may not retake it for graduate credit.
- 5500. Community Resource Mapping and Collaboration.** 3 hours. Analysis of systems that measure community assets and resources; explore the means of identifying and approaching potential collaborative community partners; focus on the development of joint proposals and/or business plans. An ecological approach is used to analyze the full range of human service agencies: health, social, educational, diagnostic, enrichment, religious, civic and legal. Students have an opportunity to do field work with agency staff on assigned community projects.

5600. Volunteer Program Planning and Evaluation. 3 hours. A seminar designed to provide students with the basic skills necessary to systematically design and plan volunteer programs and to evaluate their effectiveness. Special emphasis will be given to measuring program outcomes. Students who have received credit for this course at the undergraduate level may not re-take it for graduate credit.

5610. Topics in Volunteer Management. 3 hours. A graduate seminar devoted to the investigation, analysis and discussion of issues in contemporary volunteerism.

5800. Community Service Internship. 3 hours. Supervised work in a community agency that is directly related to the student's major, professional field or career objective. Duties, learning objectives, reporting and supervisory functions will be agreed on beforehand by the agency and the student. Prerequisite(s): student must meet the employer's requirements and have consent of the program director.

5900. Special Problems. 1–3 hours. Open to graduate students who are capable of developing a problem independently. Problems are chosen by students and approved in advance by the instructor. Prerequisite(s): consent of instructor.

Human Service Management and Leadership – see *Undergraduate Catalog*

Radio, Television and Film

Radio/Television/Film, RTVF

5100. Introduction to Graduate Study in RTVF. 3 hours. Includes approaches to research and creative activities in the discipline, the thesis process, overview of current projects being undertaken by RTVF faculty, and selected screenings of film and television works. Prerequisite(s): admission to the RTVF graduate program. Required of all new RTVF graduate students.

5120. Literature of Radio, Television and Film I. 3 hours. Introduction to the critical and historical study of the mass media. Review of various theoretical approaches from a humanities perspective, including ideological criticism, feminist and cultural studies. Prerequisite(s): RTVF 5100 or consent of department.

5130. Literature of Radio, Television and Film II. 3 hours. Introduction to social science-based study of the mass media. Review of various theoretical approaches including the social construction of reality, attitude change theories, uses and gratification research, cultivation analysis and political economy. Prerequisite(s): RTVF 5100 or consent of department.

5180. Internship in Radio, Television and Film. 1–3 hours. Supervised off-campus work experience in a placement that relates to student's career objective.

5210. Media Audiences and Cultural Studies. 3 hours. Overview of media audience theory and qualitative methods for audience studies. Special emphasis on cultural studies approaches to audiences. Prerequisite(s): RTVF graduate major status or consent of instructor.

5320. Ethnicity and American Film. 3 hours. Designed to raise questions concerning the representation of a variety of ethnicities in American film. Discussions on current debates about the nature and function of "whiteness" and considerations on the category of whiteness in film as hierarchical, contested and unstable. Prerequisite(s): consent of instructor.

5340. History of Documentary. 3 hours. Overview of the history of the documentary film from 1895 to the present in the context of historical and political events of the time. Examination of the evolution of style and form, including the impact of production technology on the process. Prerequisite(s): RTVF MA/MS or MFA status or consent of department.

5400. Media Studies Seminars. 3 hours. Rotating topics. Representative topics include films of Buster Keaton; AIDS and mass media; and production management. May be repeated for credit as topics vary.

5410. History of Electronic Media. 3 hours. (2;3) Development of radio, television, cable, satellite and newer electronic media in the United States. Emphasis on economic practices, industry structure, technological development, government policy and social impact.

5460. International Mass Communication. 3 hours. Study of mass communication media throughout the world, with special attention to press and broadcast systems, the sources and flow of international news, and problems of world communication. (Same as JOUR 5150.)

5480. Practicum in the Teaching of Radio/Television/Film. 3 hours. Training in the teaching of some aspect of radio, television or film. Under the supervision of a faculty member, the student prepares and presents instructional units, conducts class discussions and handles administrative matters peculiar to the type of course involved. Duties performed under a teaching fellowship or graduate assistantship do not earn credit in this course. No more than 3 hours may apply toward the master's degree.

5515. Media Genres and Authors. 3 hours. (3;3) An in-depth study of a specific genre in film or television from its origins through its development as a distinct narrative and aesthetic form. Rotating topics. May be repeated once as topics vary.

5530. Studies in Film History. 3 hours. Historically based study of specific aspects of film history, including institutional analysis, local and regional production and exhibition, and analysis of particular historical eras. Rotating topics. May be repeated for audit once as topics vary.

5610. Public Telecommunications Operations. 3 hours. Managing, programming, financing and operating noncommercial/public radio and television broadcast/cable facilities. Prerequisite(s): RTVF graduate major status or consent of instructor.

5620. Media Economics. 3 hours. Analysis of the economic parameters of the current and past media industries, particularly film, television and the cable industries. Includes study of the history and development of the film and subsequent media industries.

5630. Broadcast Programming. 3 hours. Theories and strategies of program selection, scheduling and evaluation for broadcast stations and cable television systems.

5640. Media Management. 3 hours. Financial, legal and technical aspects of broadcast stations and cable television systems.

5660. Industry Studies Topics. 3 hours. Rotating topics in industry studies. Topics include radio and television regulation and policy, motion picture economics, and contemporary issues in copyright law.

5701. Video Production Topics. 3 hours. Rotating topics in video production. Representative topics include documentary production and advanced television production. May be repeated for credit as topics vary.

- 5702. Film Production Topics.** 3 hours. Rotating topics in film production. Representative topics include lighting for cinematography and directing for film. May be repeated for credit as topics vary.
- 5703. Audio Production Topics.** 3 hours. Rotating topics in audio production. Representative topics include music for film and television and digital audio editing. May be repeated for credit as topics vary.
- 5740. Theory and Technique of Visual Editing.** 3 hours. An overview of some of the most useful editing techniques and theories in the history and current practice of film and television. The craft of editing will be introduced using digital nonlinear editing systems. Prerequisite(s): RTVF graduate major status or consent of instructor.
- 5750. Cinema and Video Verite.** 3 hours. Examines the development of this major style in documentary film and video, from its introduction in 1960 to its present use in nonfiction film and television. Outlines its history in detail and explores its employment in reality television, fiction film and television drama. Prerequisite(s): RTVF 1320, 3450, or 4340.
- 5760. Documentary Preproduction.** 3 hours. The design of documentary productions of all types, in both film and video. Topics include the selection of subjects, research techniques, proposal writing, location scouting, funding and budgeting. Case histories are examined and excerpts from a variety of documentary productions are screened. Prerequisite(s): RTVF graduate major status or consent of instructor.
- 5770. Documentary Production.** 3 hours. The production of an advanced documentary project from idea through final cut, culminating in a public screening.
- 5780. Seminar in Contemporary Documentary.** 3 hours. Form and content of contemporary documentary film and video. Emphasis on current approaches to theory and practice. Screenings of works and excerpts are included in addition to assigned research projects in appropriate areas. Prerequisite(s): RTVF graduate major status or consent of instructor.
- 5790. Advanced Documentary Workshop I.** 3 hours. Advanced training in documentary production with emphasis on producing, directing, shooting, lighting and sound recording through lectures, discussions, lab workshops, screenings and field production. Prerequisite(s): RTVF MFA status.
- 5791. Advanced Documentary Workshop II.** 3 hours. Advanced training in documentary production with emphasis on postproduction techniques, including editing, post-production sound and distribution through lectures, discussions, lab workshops and screenings. Prerequisite(s): RTVF 5790 and RTVF MFA status.
- 5804. MFA Colloquium.** 1 hour. Arranged meetings of all MFA students for the purpose of viewing their work in progress and to attend lectures by guest professionals in various fields of interest. Discussion of program requirements and procedures. Students must enroll each term/semester they are in the program for a maximum of 6 total credits. Prerequisite(s): RTVF MFA status.
- 5900-5910. Special Problems.** 1–3 hours each.
- 5950. Master's Thesis.** 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

Reading

see Teacher Education and Administration

Real Estate

see Finance, Insurance, Real Estate and Law

Recreation and Leisure Studies

see Kinesiology, Health Promotion and Recreation

Rehabilitation, Social Work and Addictions

Rehabilitation, RHAB

5060. Systems of Care and Wraparound: Essential Framework and Process. 3 hours. Systems of care and wraparound services are based upon core values and principles that infuse all aspects of service planning and delivery. Course provides students with practical applications and best practices models on how to design, build and implement local systems of care and wraparound services that are family-driven, community-based, and culturally competent. Practical experience in working through an integrated, seamless delivery system, requiring collaborative partnerships in a variety of community settings will be explored.

5125. Alcohol and Other Drug Abuse Counseling Models. 3 hours. Models of alcohol and other drug abuse (AODA) counseling provides students with a broad overview of intervention and counseling strategies utilized by rehabilitation programs serving persons with substance abuse disorders. Focuses on service delivery systems and AODA counseling theory.

5150. Alcohol and Other Drug Abuse Counseling Practice. 3 hours. Practice of alcohol and other drug abuse (AODA) counseling focuses on familiarizing students with the core competencies necessary for effective interventions within addiction treatment settings. Prepares students to apply these skills in AODA counseling practice. Builds directly on RHAB 5125, AODA Counseling Models, and students may take these courses as partial preparation for the AODA counselor licensure examinations.

5160. Families in Systems of Care: Defining Effective Parent-Professional Relationships. 3 hours. Provides students with practical applications and best practice models on how to build positive family-professional partnerships in the field of human services, including legal aspects and analysis of available resources necessary to address the complex needs of at-risk families. Emphasis placed on identified family-based principles associated with successful systems of care/wraparound programs targeting families who have children or family members with special needs. Prerequisite(s): RHAB 5060.

5250. Topics in Rehabilitation. 1-3 hours. In-depth analysis and discussion of significant topics in rehabilitation. Topics may include but are not limited to the following: behavior change techniques in rehabilitation; individual and group counseling in rehabilitation; computing the value of rehabilitation services; legal, ethical and professional aspects of serving people with disabilities. May be repeated for credit as topics vary.

5260. Cultural Competency in Systems of Care: Enhancing Helper Effectiveness with Ethnic Minorities. 3 hours.

Cultural competence as a mental/behavioral health service delivery approach can be applied to systems that serve all persons. Provides students with practical understanding and applications on how to become culturally competent in the field of human services. Emphasis placed on how to collaborate effectively with ethnic minority families through systems of care/wraparound service programs in a variety of community settings. Prerequisite(s): RHAB 5060.

5410. Seminar in Techniques and Advanced Practices in Rehabilitation Counseling. 3 hours. For students who are qualified to develop professional competence in special areas of rehabilitation counseling. Prerequisite(s): consent of instructor.

5420. Vocational Evaluation Systems. 3 hours. Introduction to the use of commercial vocational evaluation systems. Design, construction and standardization of locally produced work sample devices. Prerequisite(s): or consent of instructor.

5430. Use and Interpretation of Vocational Evaluation Data. 3 hours. Data collection through systematic observation. Techniques, principles and processes of data interpretation. Report writing in vocational evaluation, communicating evaluation data to the rehabilitation counselor and the rehabilitation client. Prerequisite(s): RHAB 5420 or consent of instructor.

5450. Alcohol, Drugs and Disability. 3 hours. Exploration of the challenges presented by persons with disabilities who experience coexisting alcohol and other drug abuse disorders. Identification of strategies for effectively serving this population within rehabilitation settings.

5500. Management and Supervision in Rehabilitation. 3 hours. Basic principles and practices of management and supervisory concepts as applied to the operation of a rehabilitation facility or agency.

5700. Introduction to Rehabilitation. 3 hours. Introduction to human rehabilitation with emphasis on vocational rehabilitation. Study includes the philosophical legislative and organizational foundations. Reviews rehabilitation practice, professional issues and a broad overview of the context in which rehabilitation occurs.

5710. Rehabilitation in a Multicultural Society. 3 hours. Exploration of ethnic and cultural factors influencing the planning and delivery of rehabilitation and related services. Includes examination of disability within various racial and ethnic groups along with ways to work with diverse populations.

5715. Disability Issues in Human Development. 3 hours. Covers the effects of disability, chronic illness and addition on the process of human growth and personality development across the lifespan. Focuses on rehabilitation counseling issues related to physical, emotional, cognitive, behavioral, sexual and moral/spiritual development in persons with disabilities and their families.

5720. Rehabilitation Counseling Theories. 3 hours. Includes the study of major counseling theories and modalities with focus on principles and approaches relevant to rehabilitation counseling and supervision. Covers applications required in counseling people with physical, cognitive or emotional disabilities.

5721. Rehabilitation Counseling Applications. 3 hours. Includes the study and application of the counseling process, strategies and techniques used by rehabilitation counselors. Students develop generic counseling skills applicable to work across a spectrum of rehabilitation counseling settings.

5723. Group Work and the Rehabilitation Process. 3 hours. Study of group work and theory within rehabilitation practice. Includes group/family dynamics as well as leadership style, team work and skill development with specific application to rehabilitation settings.

5730. Medical and Psychosocial Aspects of Disability I. 3 hours. First half of the physical and psychosocial aspects of medical conditions frequently encountered by the rehabilitation counseling professional. Focus is upon application of medical information and models of the process of psychosocial adjustment to disability in the rehabilitation counseling process. Covers sensory, neurological, developmental, substance use and psychiatric disorders, including an orientation to the DSM-IV.

5731. Medical and Psychosocial Aspects of Disability II. 3 hours. Second half of a two-part survey (see RHAB 5730) of the physical and psychosocial aspects of medical conditions frequently encountered by the rehabilitation counseling professional. Covers cardiovascular, respiratory, renal/urinary, endocrine, gastrointestinal, musculoskeletal/connective, dermatologic and blood/immune systems, as well as applications of assistive technology related to these conditions.

5740. Rehabilitation Assessment. 3 hours. Orientation to the process and practice of assessing adults with disabling conditions for rehabilitation plan development and decision-making. Test selection, administration and interpretation and reporting, through synthesis, integration and evaluation of assessment data as covered along with the use of the DSM IV, Ecological and Assistive Technology assessment.

5741. Employment and Career Development. 3 hours. Involves the investigation and study of theories and other practices associated with successful job placement activities. Includes transferable skills analysis, labor market analysis, job seeking skills training, employer identification, management of a job development campaign, as well as supported employment strategies. Technology related to these areas is explored.

5742. Case Management and Rehabilitation Services. 3 hours. Covers the vocational rehabilitation processes and disability systems. Study of the types of information to be collected and disseminated during the initial interview; awareness of the all the "tools" utilized by the rehabilitation counselor (testing, vocational evaluation, job analysis, labor market survey, etc.); identification of obstacles which may impede plan success; and development of case management skills necessary for effective time management and resource utilization.

5770. Rehabilitation Research and Program Evaluation. 3 hours. Designed to provide an understanding of research methods used in rehabilitation programs. Rehabilitation program evaluation and basic statistics, research methods, outcome-based research and ethical/legal/cultural issues related to research are explored.

5811. Practicum in Rehabilitation. 3 hours. A minimum of 100 clock hours of supervised experiences in the student's area of concentration, to be performed in one of the on-campus CRS vocational rehabilitation laboratories and in related community agencies. Course includes a 1-hour-per-week seminar in ethics and standards of practice in rehabilitation, as well as regularly scheduled weekly meetings for individual and group supervision. Prerequisite(s): consent of department.

5812. Internship in Rehabilitation. 6 hours. A 600-hour applied experience in the student's area of concentration in a rehabilitation agency or facility external to the university. Course includes a 1-hour-per-week seminar and group supervision meeting. Prerequisite(s): RHAB 5811 and consent of department.

5900-5910. Special Problems. 1-3 hours each. May be repeated for credit as topics vary.

5920. Problems in Lieu of Thesis. 3 hours.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

Social Work, SOWK

5100. Seminar in Social Welfare Policies and Issues. 3 hours. Selected social welfare policies and issues in the United States; their history and development, and their significance in the delivery of social welfare services.

5500. Seminar in Human Behavior and the Social Environment. 3 hours. An examination of normality and diversity in human behavior and of the various social service issues, societal values and social service programs addressing the needs and problems in human development and behavior.

5890. Seminar in Social Work, Current Issues. 3 hours. Issues and topics in contemporary social work of interest to students in various graduate programs but not covered by course offerings. May be repeated for credit as topics vary.

Risk Management and Insurance

see Finance, Insurance, Real Estate and Law

Russian

see *Undergraduate Catalog*

Secondary Education

see Teacher Education and Administration

Social Work

see Rehabilitation, Social Work and Addictions

Sociology

Sociology, SOCI

Only courses at UNT are listed (except for 6000-level courses). For information concerning sociology course offerings at Texas Woman's University, please consult their *Graduate Catalog*.

5010. Social and Cultural Foundations of Human Behavior. 3 hours. Intensive study of the conceptual framework of sociology and its application to contemporary society. Topics include social change, ethnic groups, sex roles, urban and rural societies, population patterns, culture, differing lifestyles and the role of sociology in influencing individual and group behavior. Prerequisite(s): consent of department or instructor.

5030. Seminar on Complex Organizations. 3 hours. Structure and process in large-scale organizations; theories of bureaucracy and related types of organizations;

interrelationships of formal and informal organizations. Prerequisite(s): 6 hours of advanced sociology or consent of department or instructor.

5050. The Development of Sociology. 3 hours. A survey of the development of social thought from the Greek philosophers to the emergence of modern sociology, with particular emphasis on analysis and evaluation of social theories of the 18th and 19th centuries. Prerequisite(s): 6 hours of advanced sociology.

5100. Seminar on Social Psychology. 3 hours. A comparative analysis of the major sociological theories of social psychology.

5150. Contemporary Sociological Theory. 3 hours. The development of a body of theory and method in contemporary sociology; a critical analysis and interpretation of the contributions of recent American and European sociologists; trends in modern theory. Prerequisite(s): 6 hours of advanced sociology.

5200. Seminar on Research Methods and Design. 3 hours. Research designs; techniques of sampling and scaling; problems of reliability and validity; consideration of appropriate tests of association and significance. Prerequisite(s): SOCI 4870 or equivalent, or consent of program chair or instructor.

5210. Introduction to Social Statistics. 3 hours. Probability theory, descriptive statistics, nonparametric statistics and the general linear model, including multiple regression analysis, and their application in sociological research. Prerequisite(s): SOCI 4880 or equivalent.

5260. Topics in Sociology. 3 hours. Graduate seminar devoted to investigation, analysis and discussion of significant problems in contemporary sociology. May be repeated for credit.

5300. Seminar on Social Stratification. 3 hours. Types of stratification; theories of stratification and its function in society; the methodology of stratification studies.

5310. Seminar on Occupations and Professions. 3 hours. Hierarchies of occupational status; work roles in relation to other social identities, power configurations and cultural norms; problems in measurement and theory of professionalization.

5320. Seminar on the Family. 3 hours. Advanced studies of family roles, structures and cycles. Prerequisite(s): SOCI 3000 or consent of department or instructor.

5330. Seminar on Race and Ethnicity. 3 hours. Historical and institutional theories of race relations; contemporary forms of racism; and exploration into possible social, institutional and policy solutions to the social problems linked to racism.

5350. Seminar on Urbanization. 3 hours. Application of ecological and demographic methods to the study of urban and metropolitan development; sociological aspects of urban and metropolitan problems and planning. Prerequisite(s): SOCI 3300 or consent of department or instructor.

5400. Health Delivery Systems. 3 hours. A cross-cultural overview of the health delivery system followed by an extensive consideration of all aspects of the health delivery system in the United States; government and private sector involvement in delivery of health services to the aged is emphasized. (Same as AGER 5400.)

5410. Seminar in the Sociology of Health. 3 hours. Analysis of social factors in health and illness focusing on children and non-aged adults; organization of health care and the health professions for children and non-aged adults.

5420. Introduction to Health Services Research. 3 hours. Survey of the history of the development of the field of health services research; the interdisciplinary contributions of the disciplines of sociology, economics, anthropology, gerontology, political science, and public health to the field; and the use of survey research to collect information on health status and health services utilization.

5450. Population and Society. 3 hours. Evaluation of demographic concepts and methods for the study of society; comparative analysis of population characteristics in various stages of socioeconomic development. Prerequisite(s): consent of department or instructor.

5470. Seminar on Juvenile Delinquency. 3 hours. Problems of definition and measurement, etiological theories, processing of delinquents, and treatment and prevention. (Same as CJUS 5470.)

5600. Advanced Criminological Theory. 3 hours. An examination of the major theoretical explanations of criminality, the distribution of crime and the behavior of justice agencies. (Same as CJUS 5600.)

5620. Seminar in Victimology. 3 hours. The role of the victim in various types of crime, predictors and treatment of trauma, and the treatment of victims by criminal justice agencies. Political impact of the victims movement on the justice system and the distribution of victims across demographic and behavioral groups. (Same as CJUS 5620.)

5650. Sociology of Education. 3 hours. Interrelationships of schools and communities in American society; application of sociological concepts to the study of schools as social systems.

5700. Seminar on Social Gerontology. 3 hours. An analysis of sociological and sociopsychological approaches to the study of aging with emphasis on consideration of current research. Prerequisite(s): SOCI 4550 or consent of program chair. May be repeated for credit. (Same as AGER 5700.)

5900-5910. Special Problems. 1–3 hours each. Open to advanced students capable of doing independent research under the direction of the instructor. To be registered for only on recommendation of the instructor and with the consent of the department.

5940. Sociology Internship. 1–6 hours. Supervised work in an approved setting designed to maximize student's learning and application of professional skills. Prerequisite(s): consent of department or instructor.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

6100. Seminar on Sociological Theory. 3 hours. Selected topics in sociological theory. Prerequisite(s): a minimum of 18 hours in sociology, including at least one course in sociological theory, or equivalent. May be repeated for credit.

6200. Seminar on Research Methods. 3 hours. Theory and application of quantitative and non-quantitative methods to sociological data. Prerequisite(s): a minimum of 18 semester hours in sociology, including 4880 or equivalent. May be repeated for credit.

6300. Seminar on the Life Cycle. 3 hours. An intensive analysis of selected topics in the area of the family and life cycle. Prerequisite(s): a minimum of 18 hours in sociology, including 6 hours in the area of family, or equivalent. May be repeated for credit.

6400. Seminar on the Metropolitan Community. 3 hours. An intensive analysis of selected topics in the area of the metropolitan community. Prerequisite(s): a minimum of 18 hours in sociology, including SOCI 3300 and 4350, or equivalent. May be repeated for credit.

6500. Seminar on Social Organization and Disorganization. 3 hours. An intensive analysis of selected topics in such areas as social institutions and deviant behavior. Prerequisite(s): a minimum of 18 hours in sociology, or equivalent. May be repeated for credit.

6900-6910. Special Problems. 1–3 hours each.

6940. Individual Research. 1-12 hours.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

Spanish

see Foreign Languages and Literatures

Special Education

see Technology and Cognition

Speech and Hearing Sciences

Speech and Hearing Sciences, SPHS

5060. Practicum in Speech-Language Pathology and Audiology. 1–3 hours. Diagnostic and management experiences in a variety of clinical settings. Requirements: the first enrollment for students with no previous clinical practicum in the UNT Speech and Hearing Center must be in a fall or spring term/semester; a 3.0 GPA must be maintained in department graduate courses for subsequent enrollments. Students who enter the program with inadequate preparation for graduate clinical practicum will be required to gain experience in a SPHS 4060 enrollment. Prerequisite(s): admission to a graduate degree program in speech and hearing sciences. Pass/no pass only.

5070. Clinical Management in Communication Disorders. 1 hour. Course provides information on therapeutic management, opportunities for student to develop professional competence and skills through case staffings, interdisciplinary interactions and discussion of current trends and issues. Prerequisite(s): concurrent enrollment in SPHS 5060.

5500. Medical Aspects of Speech-Language Pathology I. 3 hours. Normal and pathological anatomy and physiology of deglutition; etiology and characteristics of swallowing disorders; methods of evaluation and management of dysphagia in adults and children. Prerequisite(s): SPHS 4120 or consent of instructor.

5510. Medical Aspects of Speech-Language Pathology II. 3 hours. Pathological anatomy and physiology of head and neck; etiology and characteristics of speech and voice disorders resulting from genetic conditions or cancer of head and neck; methods of evaluation and management. Prerequisite(s): SPHS 4120 or consent of instructor.

- 5755. Neuromotor Speech Disorders.** 3 hours. Study of neurologically based communication disorders such as cerebral palsy, dysarthria, apraxia and demyelination.
- 5775. Research Methods in Speech-Language Pathology/Audiology.** 3 hours. Basic statistical measures, hypothesis formation, models, theories, experimental protocols, and designs in speech, language and hearing research. Prerequisite(s): minimum of three prior/present enrollments in SPHS 5060 or consent of instructor.
- 5780. Diagnostics: Speech Pathology.** 3 hours. Philosophical and practical considerations of the diagnostic process: current principles, methods, techniques.
- 5800. Fluency Disorders.** 3 hours. Theories of stuttering and allied disorders of rhythm, rate and fluency. Principles, methods and techniques of evaluation and management.
- 5810. Voice Disorders.** 3 hours. Principles, methods and techniques of evaluation and management of voice disorders.
- 5820. Language Development.** 3 hours. Stages of normal language acquisition in children, with consideration of current psycholinguistic theory and research issues.
- 5825. Phonologic and Phonetic Disorders.** 3 hours. A study of literature concerning normal aspects of phonological acquisition as well as assessment and treatment issues in regard to articulatory and phonologic disorders.
- 5830. Language Disorders I.** 3 hours. Principles, methods and techniques of evaluation and management of acquired and developmental language disorders in children from birth through five years. Prerequisite(s): SPHS 4010 and 4140, or equivalents.
- 5835. Language Disorders II.** 3 hours. Principles, methods and techniques of evaluation and management of acquired and developmental language disorders of school age children.
- 5840. Language Disorders III.** 3 hours. Principles, methods and techniques of evaluation and management of adults with acquired disorders such as aphasia, dementia, closed head injury, geriatric conditions and residual effects of developmental disorders. Prerequisite(s): SPHS 4010 and 4140, or equivalent.
- 5870. Seminar in Speech-Language Pathology.** 1–4 hours. Consideration of current research, clinical or professional trends and issues in speech-language pathology. May be repeated for credit as topics vary.
- 5900. Special Problems.** 1–3 hours. For students capable of developing a problem independently through conferences and activities directed by the instructor. Problem chosen by the student with the consent of the instructor. A written description of the proposed special problem signed by the student and the instructor must be filed in the department office prior to enrollment.
- 5920. Research Problems in Lieu of Thesis.** 1–3 hours.
- 5950. Master's Thesis.** 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.
- 6010. Clinical Observation in Audiology.** 2 hours. Directed observation in the audiology clinic. Development of clinical observation skills, interview techniques, case history follow-up, assistance with record-keeping. Includes observation in a variety of external audiology practicum sites.
- 6020. Clinical Audiology Clerkship.** 2 hours. Includes Clerkships I and II. Observation of the work of experienced clinicians in a variety of specialty areas; specifically audiological assessment, counseling, geriatric audiology, electrophysiological evaluation, hearing aids and rehabilitative audiology. Prerequisite(s): enrollment in the Doctor of Audiology degree program. May be repeated for credit.
- 6060. Audiology Internship.** 2 hours. Includes Internships I, II and III. Supervised client care in the UNT Speech and Hearing Center as well as a variety of external practicum sites. Prerequisite(s): enrollment in the Doctor of Audiology degree program and SPHS 6020. May be repeated for credit.
- 6070. Clinical Management of Audiological Services.** 2–4 hours. Information on diagnostic and therapeutic management; opportunities for student to develop professional competence and skill through lab exercises, case staffings, interdisciplinary interactions and discussions of current trends and issues.
- 6090. Clinical Residence in Audiology.** 3, 6 or 9 hours. Advanced full-time clinical practicum in an external practicum site during the fourth year of the AuD program. May involve relocation or travel. Prerequisite(s): completion of all academic and clinic course requirements. May be repeated for credit. Students will be required to take a total of 24 semester credit hours.
- 6100. Instrumentation in Audiology.** 2 hours. Introduction to signals, instrumentation and calibration of devices used to assess hearing. Lab topics include signal verification, audiometer calibration and sound-level measurement. Prerequisite(s): SPHS 6650 and 6660.
- 6200. Neuroanatomy and Neurophysiology of the Auditory and Vestibular System.** 3 hours. Neuroanatomy and neurophysiology of the hearing and balance systems. Emphasis on both afferent and efferent systems. Prerequisite(s): SPHS 4130 and 4120 or consent of instructor.
- 6650. Audiologic Assessment.** 3 hours. Fundamental principles and clinical application of pure tone and speech audiometry.
- 6660. Hearing Science.** 3 hours. The physical and psychological aspects of audition.
- 6670. Medical Audiology.** 3 hours. Functional anatomy, physiology and neurology of the hearing mechanism as applied to various pathologies and their otological management. Prerequisite(s): SPHS 6200.
- 6680. Pediatric Audiology.** 3 hours. Evaluation and management of hearing-impaired children. Prerequisite(s): SPHS 6650 or equivalent.
- 6690. Hearing Aids I.** 3 hours. Physical characteristics and clinical aspects of auditory amplification for the hearing impaired. Prerequisite(s): SPHS 6650, 6660, or equivalents.
- 6695. Hearing Aids II: Strategies for Selecting and Fitting Hearing Aids.** 3 hours. Strategies for selection and fitting of hearing aids and assistive listening devices. Special emphasis on fitting of programmable and digital instruments including real-ear measurement and computerized fitting techniques. Prerequisite(s): SPHS 6680 or equivalent.
- 6700. Rehabilitative Audiology: Children.** 3 hours. Management of infants and children with hearing loss. Includes procedures for management, amplification considerations, treatment methodologies, strategies for speech and language skills assessment, and educational options.
- 6710. Occupational and Environmental Hearing Conservation.** 3 hours. Physical, physiological and psychological effects of noise; its influence, measurement and control in society. Prerequisite(s): SPHS 6650, 6660, or equivalents.

6730. Seminar in Audiology. 1–3 hours. Consideration of current research, clinical or professional trends, and issues in audiology. Prerequisite(s): SPHS 6650. May be repeated for credit as topics vary.

6760. Advanced Audiologic Assessment. 3 hours. Application of pure tone, speech audiometry and electrophysiological measures to complex auditory problems. Prerequisite(s): SPHS 6650, 6700, or equivalents.

6770. Electrophysiologic Assessment I. 3 hours. Consideration of electrical potentials in the cochlea, electrical activity in the auditory nerve and brainstem, methodological considerations in studies of human evoked potentials, normal and abnormal cochlear, auditory nerve and brainstem responses. Otoacoustics emissions evoked and emitted and their clinical applications. Prerequisite(s): SPHS 6650.

6780. Electrophysiologic Assessment II. 3 hours. Applied electrophysiologic methods and techniques of evaluation of the auditory system using evoked potentials and otoacoustic emissions. Prerequisite(s): SPHS 6650.

6800. Rehabilitative Audiology: Adults. 3 hours. The rehabilitative management of the adult with hearing impairment. The rehabilitative process is examined from various parameters that affect it. Emphasis is on the assessment of communication function and appropriate remediation strategies specific to adults.

6990. Research Project. 3 hours. Faculty-directed research project that may be a prospective study of a selected aspect of auditory evaluation or rehabilitation, a retrospective analysis of existing audiologic databases, a historical survey of a particular problem area, or a feasibility study of an existing or proposed evaluation or intervention technique. May be repeated for credit. Prerequisite(s): PSYC 2317 or MATH 1680 or equivalent and SPHS 5775.

Teacher Education and Administration

Bilingual and English as a Second Language Education, EDBE

5560. Fundamentals of Bilingual and English as a Second Language Education in EC–12 Settings. 3 hours. Examination of historical and legal aspects of bilingual and English as a second language education in EC–12 settings, including program models for the education and English language learners; also, an overview of theories of second language learning and their implications for practice in schools. A minimum of 10 hours of observation is required. Prerequisite(s): consent of department.

5570. Assessing Language and Content Learning in EC–12 Bilingual and English as a Second Language Education. 3 hours. Examination of issues related to assessment of language proficiency and cognitive abilities of EC–12 English language learners, including the importance of appropriate diagnostic testing to the teaching and learning progress; a review of potential cultural bias in EC–12 assessment procedures for assessing eligibility of EC–12 students for special language programs. Prerequisite(s): EDBE 5560 or consent of department.

5580. Curriculum for EC–8 Bilingual Education. 3 hours. Study of methods, approaches and materials to teach content in a bilingual classroom with a special focus on the rationale and techniques for literacy development in Spanish. Language of instruction is Spanish and English. Placement through

departmental Spanish proficiency exam. Ten hours of observation in authentic bilingual classrooms are required. Prerequisite(s): EDBE 5560 or consent of department.

5585. Teaching, Reading and Other Language Arts in Bilingual Education. 3 hours. Theoretical principles, practices and materials applicable to the teaching of reading and other language arts in Spanish in elementary bilingual education classrooms. Key topics include reading pedagogy for biliteracy, issues of transfer from Spanish to English reading, process writing, children's literature, use of Internet and applicable computer software resources and assessment strategies. Language of instruction: Spanish. Placement through departmental Spanish proficiency test. Minimum of 10 hours of observation in authentic bilingual classroom. Prerequisite(s): EDBE 5560.

5590. Pedagogy of English as a Second Language for EC–12 Classrooms. 3 hours. Examination of appropriate procedures and materials for academic content instruction and language development for English Language Learners (ELLs). Topics to be explored include structured and unstructured techniques for teaching ELLs, the relationship between oral language development and literacy skills, the development of literacy skills in English for students who are not literate in the first language and methods for effective sheltered English instruction. Emphasis placed on inclusion of all learners. Prerequisite(s): LING 5060, EDBE 5560 or consent of department.

Educational Administration and Supervision, EDAD

5300. Introduction to Educational Administration. 3 hours. Focuses on instructional leadership development and serves as the introductory course for degrees and certification in educational administration. Includes a study of campus-level leadership and accountability and concomitant roles and responsibilities; as well as interrelationships among administrators, teachers, students, parents and community groups. Degree plans are developed and the major professor/adviser is assigned.

5330. Instructional Leadership. 3 hours. Study of instructional leadership as it relates to the improvement of instruction, effective schools and ongoing effective program delivery by personnel. Areas to be explored and discussed include significant and recent research and best practices of instructional leadership, learning theory, the change process, school climate and culture, effective teaching methods and the relationship of instruction to curriculum.

5390. Campus-Level School Law. 3 hours. Provides an understanding of important constitutional, statutory, administrative and case law as it pertains to the everyday operation of schools in Texas. Students learn the legal framework within which schooling takes place and how it structures the decisions that campus administrators make. Primary emphasis is placed on legal issues facing campus-level administrators.

5400. Management of School Resources. 3 hours. Introductory-level course in the planning and management of school resources with particular applications to Texas. Designed to prepare building-level administrators to understand the issues influencing the planning and management of personnel, financial and capital resources at the school building level.

5500. Internship in Educational Administration. 3 hours. Provision for on-the-job experience and professional study in administration and supervision as directed by the student's major adviser. Required for Texas professional certificate for school administration. Not applicable to degree programs. The internship requires 125 hours of experience at either a secondary, middle, elementary, or alternative school site. Prerequisite(s): completion of EDAD 5300, 5330, 5390 and 5400.

5550. Computer Applications for Educational Administrators. 3 hours. Study and analysis of the use of technology in the administration of education with emphasis on using microcomputer applications to facilitate administrative activities; planning for the incorporation of technology into district/campuswide instructional programs; and promoting education via the use of technology.

5600. Race, Class and Gender Issues in Education. 3 hours. Race, class and gender inequities exist throughout educational systems. Students critically examine issues related to providing leadership for a diverse student population. Students learn what it means to be a culturally responsive leader and to review, research and debunk stereotypes and negative views. Students begin to recognize all learners as capable, motivated, resilient and able to build on cultural strengths. Strategies for school change are also explored. Prerequisite(s): completion of EDAD 5300, 5330, 5390 and 5400.

5610. School Communications and Public Relations. 3 hours. Every administrator in an educational organization has a responsibility to engage in public relations on a daily basis. The primary objective of this course is to examine school-based public relations with the context of life in an information age, practice in schools shared decision-making, and sustained demands for school improvement. Students study three critical dimensions of school public relations: informing the public; modifying attitudes and opinions; integrating the actions and attitudes of an organization with those of its public. Prerequisite(s): completion of EDAD 5300, 5390 and 5400.

5620. Administration and Leadership for Student Educational Services. 3 hours. Designed to investigate the values, theoretical bases, best practices and challenges for leaders who administer student educational services at the school or district levels. Provides a review of federal laws, rules, regulations and expectations for students placed at risk in educational settings by circumstances and situations beyond their control. Emphasis on students who are educationally disadvantaged because of poverty, language differences, disabilities, interests and academic performance or lack thereof. Prerequisite(s): completion of EDAD 5300, 5330 and 5400.

5630. Organizational Change and School Improvement. 3 hours. School change and improvement from the perspectives of classical/rational organizational theory, open systems theory, contingency theory and social systems theories. Content includes research on school change and school improvement, strategic planning, effects of major reform initiatives in the 1980s and 1990s, and the development of the literature review in a research study. Prerequisite(s): completion of EDAD 5300, 5330, 5390 and 5400.

5650. Professional Development and Supervision. 3 hours. Provides students with the knowledge, interpersonal skills and technical skills to accomplish the supervisory tasks of direct assistance to teachers and professional development. Students learn how to implement models of professional development, especially job-embedded professional development, and how to apply the basic processes of developmental supervision, clinical supervision and coaching. In addition, the course addresses the relationship of effective supervisory behaviors to appraisal processes. Prerequisite(s): EDAD 5300, 5330, 5390 and 5400.

5680. Administration of the K–12 Curriculum. 3 hours. Examines the interaction among curriculum, instruction and assessment at site, district and national levels. Theoretical knowledge as well as site and district based curricular projects are included. The student develops an understanding of the critical importance of research based yet practical curriculum alignment and coordinated planning in school reform and improvement. Prerequisite(s): completion of EDAD 5300, 5330, 5390 and 5400.

5700. Practicum in Educational Administration. 3 hours. The final course for the educational administration program area. During the class meetings students review and analyze fundamental issues in the educational administration competency areas, discuss current trends and pressures influencing changes in the field, and address knowledge and skills needed to be prepared for an administrative career. At least 125 contact hours are spent in the field working with a site or central office administrator dealing with specified instructional, supervisory, administrative, leadership, curricular and management responsibilities. Prerequisite(s): EDAD 5300, 5390 and 5400.

5800-5810. Studies in Education. 1–3 hours each. Organized classes specifically designed to accommodate the needs of students and the demands of program development that are not met by the regular offerings. Short courses and workshops on specific topics are offered on a limited basis, to be repeated only upon demand. May be repeated for credit.

5900. Special Problems. 1–3 hours. Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor and the department chair.

6031-6032-6033. Practicum, Field Problem or Internship. 3 hours each. Provision for on-the-job experience or professional study in administration or supervision as directed by student's major adviser. Limited to 6 hours in doctoral degree program. Special designation for each section is as follows.

6031. Internship Under Practicing School Administrator. Required for Texas professional certificate for school administration. Not applicable to degree programs.

6032. Practicum or Field Problem. An elective for doctoral candidates in administrative leadership.

6033. Internship Under School Superintendent. Required for Texas professional certificate for superintendent. Not applicable to degree programs.

6100. Theoretical Foundations of Educational Administration. 3 hours. Designed to provide educational leaders and administrators with the body of theory most relevant to the high-quality practice of educational administration, and to specifically relate research and theory to practice in educational administration. Prerequisite(s): any one of EDER 5050, 5210, 5220 and 6020, or consent of instructor.

6110. Advanced Theory and Research in Administration. 3 hours. Contemporary inquiry in educational administration. The course examines the impact of positivism, subjectivism and functionalism and its critics on recent research on school organization and administration.

6200. Current Issues in Educational Administration. 3 hours. A doctoral seminar on issues of policy and practice in educational administration. It addresses value orientations, relevant research and policy considerations that shape decisions.

6310. Research Practicum. 3 hours. Students conduct a research project designed to generate or test theory. Prerequisite(s): EDAD 6110 and permission of instructor. May be repeated for credit.

6400. Politics of Educational Administration. 3 hours. This course focuses on politics as it impacts educational administration. Starting with an exploration of the political systems model as a means of analysis, the course examines educational policy development at the local, state and federal levels. The roles of change agents, interest groups, lobbyists, the media and other political players are examined. Implications for administrative behavior are discussed. Much of the analysis is conducted through case studies and study of current educational issues.

6510. Seminar in Advanced Education Law. 3 hours. Builds on the content of the prerequisite course by focusing on legal and policy issues of particular concern to top-level educational policymakers and administrators. Topics include such controversial and complex issues as the role of the state in education, parental rights, school choice and vouchers, privatization, religion on campus, school desegregation and integration, and legal liability for constitutional wrongs. Topics will vary, depending upon the current school reform agenda. Underlying concerns that drive the development of legal mandates in schooling will be explored. Prerequisite(s): EDAD 5390 or equivalent.

6520. Personnel Administration in the Public Schools.

3 hours. The principles and practices of personnel administration. Emphasis on recruitment, selection, deployment, evaluation, staff development, manpower planning and employee relations in the public schools.

6530. Educational Facilities. 3 hours. The planning, design, construction, maintenance and evaluation of educational facilities. Develops awareness and skills related to population projections, needs assessment, educational specifications, site selection, rehabilitation of buildings, maintenance and operation of educational facilities, and building evaluation surveys.

6540. Education and Public Relations. 3 hours. Principles and practices of public relations applied to education. Designed to provide proficiency and skill in the improvement of relations between the school and the public through interaction and utilization of political, community and human resources and other social institutions in the organization, and improvement of public education.

6550. Business Administration of the Public Schools.

3 hours. Organization of the business management function in the public schools, including internal structure, office and personnel management, budgeting maintenance and operation, transportation, food services, legal relationships, insurance and safety. Prerequisite(s): EDAD 5520 or consent of instructor.

6570. Seminar in Advanced Educational Finance. 3 hours. Problems and issues involved in financing the public schools. The context and methodology of the course are suitable for educators working at all levels in the public schools and are directly relevant to their current problems and needs. Prerequisite(s): EDAD 5520 or consent of instructor.

6580. Administration and Supervision of the Instructional Program. 3 hours. Major issues, problems and trends in the K–12 curriculum, from an administrative and supervisory point of view. Special emphasis is given to the role of organizational leadership and to strategies for stimulating, implementing and evaluating alternatives in curriculum and instruction. Prerequisite(s): any one of EDCI 5320, EDSE 5440 and EDEE/EDSE 5400, or consent of instructor.

6590. The Superintendency. 3 hours. An advanced course dealing with the basic functions of the superintendency — planning, programming, communicating and evaluating — and the current issues and problems confronting the practicing educational administrator. Prerequisite(s): EDAD 5330 or consent of instructor.

6900–6910. Special Problems. 1–3 hours each. Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs. Conferences with professors in the fields also are included.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain

continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

Educational Curriculum and Instruction, EDCI

5130. Philosophy and Principles of Multicultural Education. 3 hours. The recognition and examination of the philosophy and principles germane to multicultural education. Emphasis is on sensitivity to racial and cultural differences and their influences on an effective educational program. Students also examine the great diversity of lifestyles that our multicultural heritage embraces. Prerequisite(s): EDCI 5710. (Same as EDEE and EDSE 5130.)

5320. Curriculum Development. 3 hours. Identification and understanding of the underlying philosophical principles, societal expectations and practical demands that must be reflected in the development of curricular offerings, incorporating appropriate instructional and evaluative methodology for a diverse student clientele. Includes continued development of the program portfolio. Includes research proposal for the program action research project. Prerequisite(s): EDCI 5710.

5360. Effective Teaching and Learning. 3 hours. Theoretical grounding and practical experience to further enhance instructional knowledge and expertise of certified teachers. Course objectives are based on national and state standards for teacher development beyond initial certification. The course enables student teachers to enhance student learning in the classroom and prepares teachers for campus leadership roles such as that of mentor teacher and staff development provider. Includes continued development of the program portfolio. Includes the literature review for the program action research project. Prerequisite(s): EDCI 5710.

5620. Anthropology of Education. 3 hours. Examines issues and approaches relevant to the study of education within the field of anthropology. Introduction to anthropological concepts and anthropological methods used in the study of education and schooling. Examination of the relation between anthropology and education as it pertains to cultural transmission. Cultural difference, minority status, and educational outcomes. Current perspectives and critiques relevant to educational “problems” and emerging solutions derived from an anthropological perspective of education. (Same as ANTH 5620.)

5710. Curriculum and Instruction Inquiry I. 3 hours. Introduction to critical reflection and inquiry through action research. Development of basic skills as consumers of educational research and as teacher-researchers. Admission procedures are completed and degree plan developed. Should be taken upon first residence registration in the curriculum and instruction MEd program.

5720. Curriculum and Instruction Inquiry II. 3 hours. Advanced critical reflection and inquiry through action research and advocacy. Refinement of skills as consumers of educational research, teacher-researcher and advocate for and against educational change. Consideration of contemporary issues in education. Presentation of program portfolio is scheduled during enrollment in this course, including completion of action research report. Should be taken during the last resident registration in the curriculum and instruction MEd program. Prerequisite(s): EDCI 5130, 5320, 5360, 5710; and EDSP 5755.

5800–5810. Studies in Education. 1–3 hours each. Organized class specifically designed to accommodate the needs of students and the demands of program development that are not met by the regular offerings. Short courses and workshops on specific topics are offered on a limited basis. May be repeated for credit with departmental approval. (Same as EDEE/EDSE 5800–5810.)

5960-5970. Education Institute. 1–6 hours each. For students accepted as participants in special institute courses on a range of topics relevant to the development of teacher leaders. (Same as EDEE 5960-5970.)

6030. Practicum, Field Problem or Internship. 3 or 6 hours.

The provision of supervised professional activities in education by the student's major adviser. Registration is on an individual basis.

6110. Conceptual Frames for Curriculum and Instruction.

3 hours. Analysis of major concepts, areas of concern and modes of inquiry of the fields of educational history, philosophy, sociology and anthropology as applied to theory and policy in the fields of curriculum and instruction. Required entry course for doctoral program in curriculum and instruction.

6220. Conceptual Models of Curriculum Development.

3 hours. Descriptions and analyses of conceptual models of curriculum theory, curriculum development, and curriculum inquiry and research. Prerequisite(s): EDCI 6110 or consent of instructor.

6230. Implementation and Evaluation of Curriculum.

3 hours. Course covers selected models of curriculum and allows students to analyze and design appropriate strategies for implementing and evaluating curriculum. Prerequisite(s): EDCI 6110 and 6220, or consent of instructor.

6340. Conceptual Models of Learning and Instruction.

3 hours. The study of the research base and the learning theory underlying major current models of teaching. Prerequisite(s): EDCI 6110, 6220 and 6230, or consent of instructor.

6350. Research and Practice of Teaching. 3 hours. The course focuses on research in teaching; the selection, implementation and evaluation of strategies and models; and conceptual models of improving instruction. Prerequisite(s): EDCI 6110, 6220, 6230 and 6340, or consent of instructor.

6460. Policy Analysis in Curriculum and Instruction.

3 hours. Description and analysis of major factors involved in curriculum and instruction policy-making at the local, state, national and international levels. The course includes information and practice on developing a practical approach to policy development in curriculum and instruction. Prerequisite(s): EDCI 6110, 6220, 6230, 6340 and 6350, or consent of instructor.

6900-6910. Special Problems. 1–3 hours each. Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs. Conferences with professors in the fields also are included.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

Educational Foundations, EDUC

5010. Human Development. 3 hours. Selected foundational aspects of human development with multidisciplinary range of the ages and stages of human development. The range is from preconception through old age and dying, with emphasis upon early childhood through young adulthood.

5180. Whole-Brain Learning. 3 hours. Survey and analysis of current brain research as it relates to education and to a whole-brain approach to learning. Both hemispheres receive emphasis, i.e., cognition as well as intuition, creativity, imagination and insights.

5900. Special Problems. 1–3 hours. Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor. Open only to resident students.

6150. Philosophy of Education. 3 hours. The use of philosophical techniques and concepts in the solution of contemporary educational problems.

6200. Education in the Age of Information and

Consciousness. 3 hours. Examination of philosophical and cultural/social constructs and related theoretical concepts and developments, and their impact on practical problems of education.

6900-6910. Special Problems. 1–3 hours each. Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs. Conferences with professors in the fields also are included.

Elementary Education, EDEE

5020. Advanced Studies in Elementary School Mathematics.

3 hours. Modern curricula and techniques. The content, scope, philosophy and pedagogical strategies of several modern mathematics curricula and their utilization in upgrading mathematics instruction in the elementary school. Prerequisite(s): EDEE 4350.

5030. Field Experiences in Elementary Schools. 3 hours.

Supervised professional activities in elementary schools; includes teaching under supervision.

5040. Advanced Studies in Elementary School Social Studies.

3 hours. Teaching social studies in the elementary school and aspects of citizenship and character development. Prerequisite(s): EDEE 4340.

5050. Advanced Studies in Elementary School Science.

3 hours. Modern curricula and techniques. The content, scope, philosophy and pedagogical strategies of several modern science curricula and their utilization in upgrading science instruction in the elementary school. Prerequisite(s): EDEE 4330.

5060. Advanced Studies in Elementary School Language Arts.

3 hours. A comprehensive study, based on principles of child growth and development, of the language arts for the elementary school. Major areas of consideration are trends and philosophies, materials and techniques, and relevant research. The interrelationships of all the language arts are given primary emphasis. Prerequisite(s): EDRE 4860.

5105. Practicum I. 3 hours. Supervised teaching experience in school as a teacher of record. Required for initial teacher certification for those already holding a baccalaureate degree. Interns are guided by a school district mentor who assists them with classroom management strategies, student problems and concerns, and general guidance. Interns are also monitored and counseled by qualified university supervisors. Extensive online support and resources are provided. Grade is pass/no pass. Prerequisite(s): admission to Teacher Education Program; probationary teaching certificate.

5115. Practicum II. 3 hours. Supervised teaching experience in school as a teacher of record. Required for initial teacher certification for those already holding a baccalaureate degree. Interns are guided by school district mentor who assists them with classroom management strategies, student problems and concerns, and general guidance. Interns are also monitored and counseled by qualified university supervisors. Extensive online support and resources are provided. Grade is pass/no pass. Prerequisite(s): admission to Teacher Education Program; probationary teaching certificate.

5130. Philosophy and Principles of Multicultural Education. 3 hours. The recognition and examination of the philosophy and principles germane to multicultural education. Emphasis is on sensitivity to racial and cultural differences and their influences on an effective educational program. Students also examine the great diversity of lifestyles that our multicultural heritage embraces. (Same as EDSE and EDUC 5130.)

5140. The Linguistically Diverse Learner. 3 hours. Designed to enhance an understanding of the unique needs and requirements of learners whose first language is not English. Students examine their own beliefs about speakers of other languages. Appropriate strategies and materials for the second language learner in both the ESL and regular classroom are explored. One of three core courses for the diversity certificate.

5400. Curriculum Development in the Middle School. 3 hours. Analysis of the bases and techniques for curriculum development in the middle school with particular emphasis on the nature of the early adolescent learner and salient elements of middle school theory. Includes practical problems in developing curricula for middle schools and implementation of innovation in the middle school setting. (Same as EDSE 5400.)

5800-5810. Studies in Education. 1–3 hours each. Organized classes specifically designed to accommodate the needs of students and the demands of program development that are not met by the regular offerings. Short courses and workshops on specific topics are offered on a limited basis, to be repeated only upon demand. May be repeated for credit. (Same as EDCI/EDSE 5800-5810.)

5840. Engaging Students in Learning. 3 hours. Introduction to teaching in the school focusing on the circumstances of contemporary students, the qualities and practices of teachers who engage students in learning, and on schools as communities of learning for students and professionals. Teacher practices in classroom management and organization and focusing learning through assessment are emphasized. A field experience is included. Prerequisite(s): admission to the teacher education program, a child/adolescent/lifespan development course, and an educational-application computer course.

5850. Instructional Methodologies in Language Arts and Social Studies. 3 hours. Survey of subject-specific instructional methods and activities in English/language arts and social studies, along with connections to fine arts. Includes subject-specific assessments, subject-specific technology applications and the application of content area reading methods. Includes 24 clock hours of field experience. Course is designed for post-baccalaureate teacher certification candidates only. Prerequisite(s): EDRE 4450 or 4820.

5860. Instructional Methodologies in Mathematics and Science. 3 hours. Survey of subject-specific instructional methods and activities in mathematics and science, along with connections to fine arts. Includes subject-specific assessments, subject-specific technology applications and the application of content area reading methods. Includes 24 clock hours of field experience. Course is designed for post-baccalaureate teacher certification candidates only. Prerequisite(s): EDRE 4450 or 4820.

5900-5910. Special Problems. 1–3 hours each. Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor. Open only to resident students.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

5960-5970. Education Institute. 1–6 hours each. For students accepted as participants in special institute courses. (Same as EDCI 5960-5970.)

Reading, EDRE

5030. Practicum, Field Problem or Internship. 3–6 hours. (0;0;3–6) Supervised professional activities in reading education. Registration is on an individual basis.

5070. Literacy Development for English Learners. 3 hours. Detailed analysis of reading and writing instruction for English language learners. Includes theoretical models, recognition of current issues related to integrated literacy instruction, and delineates best practices for English literacy development in educational settings.

5170. Materials and Recent Developments in Reading. 3 hours. Recently developed reading programs, reading techniques and technological advances related to the reading field are examined in light of research. Prerequisite(s): EDRE 5370 or equivalent.

5180. Advanced Assessment and Evaluation in Reading. 3 hours. An exploration of current techniques for assessment and evaluation in reading. Merging assessment and instruction in classrooms is emphasized. Prerequisite(s): EDRE 5370 or equivalent.

5190. Reading Assessment and Instruction for Special Populations. 3 hours. Development, implementation and evaluation of assessment and instructional procedures in reading for special populations. Supervised instruction in a clinic setting is required. Prerequisite(s): EDRE 5180 or equivalent. May be repeated once for credit.

5200. Development and Supervision of Reading Programs. 3 hours. Analysis of the total reading program, emphasizing specific strategies for improvement of programs. Prerequisite(s): EDRE 5370 or equivalent.

5370. Advanced Reading Theory/Practice. 3 hours. A program designed to provide understanding of the many facets of the reading act, to provide opportunities for evaluation of approaches to teaching reading and to acquaint students with basic research in reading. Prerequisite(s): EDRE 4820 or equivalent.

5510. Reading Workshop Approaches. 3 hours. Provides theory, research and practice related to composition instruction and writing workshop approaches, including classroom organization, the writing process and performance-based assessment practices. May be repeated for credit with adviser approval for a maximum of 6 hours.

5520. Writing Workshop Approaches. 3 hours. Provides theory, research and practice related to composition instruction and writing workshop approaches, including classroom organization, the writing process, and performance-based assessment practices. May be repeated for credit with adviser approval for a maximum of 6 hours.

5550. Literacy Instruction in Our Culturally Diverse Society. 3 hours. Establishes an awareness of the significance of culturally responsive literacy instruction and an understanding of the various components and characteristics of a learning context that support a diverse population. Emphasis on instruction, multicultural children's literature, issues surrounding literacy instruction and assessment of such.

5800-5810. Studies in Education. 1–3 hours each. Organized classes specifically designed to accommodate the needs of students and the demands of program development that are not met by the regular offerings. Short courses and workshops on specific topics are offered on a limited basis, to be repeated only upon demand. May be repeated for credit.

5900. Special Problems. 1–3 hours. Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor. Open only to resident students.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

6030. Practicum, Field Problem or Internship. 3 or 6 hours. Supervised professional activities in reading education. Registration is on an individual basis.

6040. Research in Literacy Assessment and Evaluation. 3 hours. Study of historically significant and current research and public policies that affect literacy assessment. Students are provided hands-on opportunities for action research in local schools or education agencies.

6060. Research in the Language Arts. 3 hours. Critical review and examination of extant research in the language arts with special emphasis on writing, listening and speaking. Current practices in language arts instruction will be studied in relation to historical perspectives and contemporary research.

6070. Politics of Literacy. 3 hours. Investigation of significant policy documents that influence the field of literacy education. Along with building historical background, this course engages in critique and interpretation of policy from varying theoretical perspectives. Connections between research and policy, implications for district and campus decision-making, and opportunities for advocacy and policy development are included.

6080. Evolution of Literacy Research. 3 hours. Survey and critique of significant literacy research from its origins to the present. This course will focus on major works and contributions to the field, predominant researchers, as well as trends within literacy research and across related fields.

6090. Cognition and Reading. 3 hours. Analysis of the process of reading in relation to the physiological, perceptual, cognitive and affective domains.

6100. Seminar in Reading. 3 hours. Seminar engages learners in the exploration, analysis and critique of research reflecting a variety of topics in literacy, literacy education and related fields. Led by a different instructor each term/semester. Offered every spring and can be taken a maximum of twice in fulfillment of reading-related or elective degree requirements as approved by the doctoral program adviser.

6900-6910. Special Problems. 1–3 hours each. Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs. Conferences with professors in the fields also are included.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

Doctoral Reading Courses Offered at Texas Woman's University

Students wishing to enroll in the following TWU courses will do so through a cross-registration mechanism administered by the School of Graduate Studies at UNT.

READ 6513. Observing and Responding to Young Readers. 3 hours. Focus on the systematic and controlled observation of young children using a series of diagnostic survey instruments. Additional content emphasis includes the teacher's role in responding to emerging readers, based on actual observations of literacy behaviors and theoretical literacy perspectives.

READ 6523. Early Literacy Intervention. 3 hours. Focus on the procedure for working with emerging at-risk readers and writers. Course content is based on strategies children need to be independent readers and writers. Course content and presentation reflect a highly theoretical teacher decision making model based on actual observation of teacher-child interactions.

READ 6533. Foundations for Reading: Physiological and Psychological Dimensions. 3 hours. Critical examination of scientific studies and theories related to the physiological and psychological aspects of the reading act, analysis of facilitating and inhibiting factors in early reading development and appraisals of approaches to teaching beginning reading in relation to this analysis. Prerequisite(s): 3–6 hours of graduate study in reading and child development or permission of instructor. (Fall term/semester.)

READ 6543. Theoretical Foundations: Early Literacy and Early Intervention. 3 hours. For Reading Recovery teacher leaders-in-training focusing on the underlying theories of early literacy acquisition (including processes related to reading, writing and oral language) and the underlying theories of prevention of reading difficulties through early intervention.

READ 6553. College and Adult Reading. 3 hours. Nature and scope of reading instruction for adults and college students; methods; materials; organization of developmental, corrective and accelerated study skill programs. 3 lecture hours a week. Prerequisite(s): 6–9 hours of graduate study in reading or permission of instructor.

READ 6573. Reading as Related to Linguistics. 3 hours. Exploration of contributions and latest research of linguists, sociolinguists and psycholinguists to the teaching of reading; examination of the role of language in the reading process with emphasis on text linguistics and discourse analysis. 3 lecture hours a week. Prerequisite(s): READ 6533 or permission of instructor. (Spring term/semester.)

READ 6583. Research in Reading. 3 hours. Description of methods and techniques employed in reading research; critiquing significant research and developing appropriate designs to study research topics. 3 lecture hours a week. Prerequisite(s): 12–15 graduate hours in reading, 6 hours of statistics or permission of instructor. (Summer term/semester.)

READ 6593. Advanced Reading Research Design: Analysis and Evaluation. 3 hours. Methods of inquiry about the reading process: teaching, learning and proposal development. 3 lecture hours a week. Prerequisite(s): 15 hours of graduate study in reading including ERDB 6583, 6 hours of statistics or permission of instructor. (Summer term/semester.)

READ 6663. Practicum. 3–9 hours. Registration in the areas of reading, kindergarten and/or early childhood teaching or by field placement in an administrative or supervisory setting. Type of placement will vary with student's area of major concentration and past experience. Prerequisite(s): 9 hours of doctoral credit or permission of instructor.

READ 6683. Doctoral Seminar in Reading. 3 hours. Variable content. In-depth examination of research relevant to topics. Prerequisite(s): 3–6 graduate hours in reading or permission of instructor. May be repeated for up to 12 hours credit with permission of student's adviser.

READ 6903. Special Topics. 3 hours. Variable content. Prerequisite(s): permission of instructor.

READ 6911. Independent Study. 1–6 hours. Variable content. Individual research relating to a problem of professional interest and significance. Prerequisite(s): permission of instructor and post-master's standing. May be repeated for up to 12 hours of credit with permission of student's adviser.

READ 6913. Independent Study. 3–6 hours. Variable content. Individual research relating to a problem of professional interest and significance. Prerequisite(s): permission of instructor and post-master's standing. May be repeated for up to 12 hours of credit with permission of student's adviser.

Secondary Education, EDSE

5001. Public Education and the Teaching Profession.

3 hours. This course will provide an overview of the teaching profession and an understanding of the history, structure, purposes, organization and management of the American education systems.

5002. Everyone Can Learn: Applying Theory to Teaching Practice.

3 hours. Processes of learning and development are related to teaching in diverse secondary school settings. Cognitive, social, physical and moral development research is presented, and practical examples applied to teaching practice are demonstrated. Student differences with regard to intelligence, learning style, culture, economic status and gender are explored. Additional topics include operant conditioning, social learning theory, information processing, constructivism, various approaches to instruction and motivation theory.

5003. Successful Teaching in the Secondary School.

3 hours. This course will provide preparation for successful teaching in the contemporary secondary school. It will focus on instructional planning, teaching strategies, classroom management and other teacher competencies necessary in today's diverse classrooms. Prerequisite(s): EDSE 5001 and 5002.

5004. Literacy for All. 3 hours. Provides a brief overview of relevant theory with emphasis on practical applications. Designed to help prospective and practicing middle and secondary school teachers in all content areas increase and enhance students' learning, especially from printed materials. Also helps secondary teachers recognize and compensate for the variety of students' ability levels. Includes cognition related to reading, Metacognition, schemata, constructivism, vocabulary learning, writing to learn, literacy strategy instruction, assessment of literacy, text analysis, academic diversity and the use of resources other than textbooks to enhance learning.

5005. Curriculum Development for Diverse Secondary School Learners. 3 hours. Provides knowledge and skills required for the development and organization of curriculum and instructional strategies in the diverse secondary classroom. Topics include philosophy and principles of multicultural education; racial and cultural influences on

education; Texas Essential Knowledge and Skills; alignment of district, state and national curriculum standards; standardized testing; the impact of teaching and learning on instruction and assessment; alternative assessment theories; and the relationship of instruction to classroom management.

5030. Field Experiences in Secondary Schools.

3 hours. Supervised professional activities in secondary schools. Prerequisite(s): bachelor's degree.

5105. Practicum I. 3 hours. Supervised teaching experience in the public schools as teacher of record. Required for initial teacher certification for those already holding a baccalaureate degree. Interns are guided by a school district mentor who assists them with classroom management strategies, student problems and concerns, and general guidance. Interns are also monitored and counseled by qualified university supervisors who frequently visit/observe/assess in the classroom. A teaching portfolio is required. Pass/no pass only. Must show proof of employment in a school recognized by the Texas Teacher Education Agency in order to enroll. Prerequisite(s): EDSE 5002, 5004, 5130 and 5470, or consent of program administrator.

5108. Student Teaching in the Secondary Schools.

3 hours. Teaching under supervision. Prerequisite(s): EDSE 5001, 5002, 5003, 5004 and 5130. Research paper may be required. Required for those seeking secondary certification. See student teaching program for details. Pass/no pass only.

5115. Practicum II.

3 hours. Supervised teaching experience in the public schools as teacher of record. Required for initial teacher certification for those already holding a baccalaureate degree. Interns are guided by a school district mentor who assists them with classroom management strategies, student problems and concerns, and general guidance. Interns are also monitored and counseled by qualified university supervisors who frequently visit/observe/assess in the classroom. A teaching portfolio is required. Pass/no pass only. Must show proof of employment in a school recognized by the Texas Teacher Education Agency in order to enroll. Prerequisite(s): EDSE 5002, 5004, 5105, 5130 and 5470, or consent of program administrator.

5118. Student Teaching in the Secondary Schools.

3 hours. Teaching under supervision. Prerequisite(s): EDSE 5001, 5002, 5003, 5004 and 5130. Research paper may be required. Required for those seeking secondary certification. See student teaching program for details. Pass/no pass only.

5130. Philosophy and Principles of Multicultural Curriculum.

3 hours. Provides knowledge and skills required for the development and organization of curriculum and instructional strategies in the diverse secondary classroom. Topics include philosophy and principles of multicultural education; racial and cultural influences on education; Texas Essential Knowledge and Skills; alignment of district, state and national curriculum standards; standardized testing; the impact of teaching and learning on instruction and assessment; alternative assessment theories; and the relationship of instruction to classroom management.

5400. Curriculum Development in the Middle School.

3 hours. Analysis of the bases and techniques for curriculum development in the middle school with particular emphasis on the nature of the early adolescent learner and salient elements of middle school theory. Includes practical problems in developing curricula for middle schools and implementation of innovation in the middle school setting. (Same as EDEE 5400.)

5440. Curriculum Development in the Secondary School.

3 hours. Practical problems in developing courses of study and curricula for the secondary school according to accepted psychology, sound education theory and national objectives.

5460. Improvement of Secondary Teaching. 3 hours. The derivation of appropriate methods and techniques from basic principles of learning. The development of working skills needed in cooperative planning, selecting and organizing teaching materials, utilization of the environment, individual and group guidance, and evaluation activities for the secondary school.

5470. Maintaining Classroom Discipline. 3 hours. Models and procedures for classroom management and discipline, as well as techniques for motivating and instructing diverse student populations. Human relations strategies are discussed in great detail and methods for increasing parental involvement are also addressed. Topics include: what to do before students arrive, creating the learning environment, behavioral analysis, legal considerations, conferencing, learning contracts, incentives, planning, staying organized and time management.

5710. Basic Research and Evaluation for Secondary Teachers. 3 hours. Basic skills in reading and interpreting research are developed. Students are introduced to elementary statistical concepts in measurement and evaluation. Should be taken upon first registration for the master's degree. Admission procedures are completed and a degree plan is prepared.

5720. Evaluation Seminar. 3 hours. Demonstration on the part of candidates, through oral and written examination and completion of certain projects, of competency in special field and related areas of the degree program. Scheduled during last resident registration in the Master of Education degree program.

5800-5810. Studies in Education. 1–3 hours each. Organized classes specifically designed to accommodate the needs of students and the demands of program development that are not met by the regular offerings. Short courses and workshops on specific topics organized on a limited-offering basis, to be repeated only upon demand. May be repeated for credit. (Same as EDCI/EDEE 5800-5810.)

5900-5910. Special Problems. 1–3 hours each. Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor. Open only to resident students.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

5110. Curriculum Design and Instructional Resources. 3 hours. Development, organization and use of curriculum materials and resources in career and technical education, with an emphasis on employability skills, work-based learning and instructional technology.

5120. Demonstrating Effective Presentation Skills. 3 hours. Such instructional strategies as lecture and demonstration are emphasized; includes introduction, questioning and summary techniques, as well as the use of basic media commonly utilized in technical presentations.

5121. Corporate Training Presentation Skills. 3 hours. Such training strategies as job coaching and small group instruction are emphasized; includes motivation techniques, one-on-one interaction skills, questioning and summary techniques and the use of electronic presentation media.

5130. Roles and Responsibilities of Career and Technical Education Professionals. 3 hours. Focuses on the career and technical education teacher's role in the classroom, laboratory, school and community. Emphasizes the roles of technology, discipline and liability.

5140. Developing Work-Based Experiences in Career and Technical Education. 3 hours. This course is designed to address all aspects of work-based learning. Basic standards and the development of educational training opportunities are included.

5160. Advanced Computer Applications in Education and Training. 3 hours. Advanced preparation for students entering into education or training organizations that utilize modern computer-based technologies including graphic applications, telecommunications, networking, programming and instructional technology. Prerequisite(s): consent of department.

5200. Leadership Practices in Health Science Technology Education. 3 hours. Internet-based course consisting of seven modules designed to assist the health science technology education (HSTE) professional in organizing, facilitating and evaluating a successful leadership program for health science technology students. Requires participation in an e-group to share ideas and experiences.

5210. Authentic Assessment Techniques in Health Science Technology Education. 3 hours. Internet-based course consisting of three modules that examine a wide variety of assessment techniques and strategies for use in health science technology programs. Emphasis is placed on the practical application of assessment.

5400. Planning and Organizing Programs of Vocational Guidance. 3 hours. Purposes and functions of a guidance program, group guidance procedures, components of a vocational guidance program and techniques for providing vocational guidance services for elementary, secondary and adult populations.

5430. Historical Foundations of Applied Technology. 3 hours. An examination of the historical and philosophical foundations of applied technology. Interrelationships of economic, sociological and psychological foundations are considered. Includes the role and responsibility of the professional educator in applied technology programs.

5440. Facilitation Strategies in Applied Technology and Training. 3 hours. Advanced instructional strategies, such as group facilitation, cooperative learning, questioning, discussion, problem-solving, simulation, reflective teaching and other instructional techniques. Participants are expected to employ various presentation techniques through small group exercises. Prerequisite(s): ATTD 5120.

Technical Writing

see English

Technology and Cognition

Applied Technology, Training and Development, ATTD

5010. Performance Assessment. 3 hours. A focus on the preliminary assessment of human performance problems in organizations. The design, development, implementation and evaluation of training programs for supervisors and trainers is discussed.

5100. Principles of Applied Technology, Training and Development. 3 hours. This overview course investigates the design, delivery and evaluation of training programs. The relationship of modern technology and training theories with organizational practices will also be addressed.

5470. Interpersonal Skills Development. 3 hours.

Development of human relations and communication skills; human relations as a factor in developing programs in business, education and industry.

5480. Research Techniques in Applied Technology and Training. 3 hours.

A general orientation to basic methods of research in applied technology, training and development; including the scientific method as a basis for analysis, interpretation of results. This course should be taken in the last 15 semester hours of the program.

5490. Diversity Issues in Applied Technology, Training and Development. 3 hours.

This course will address general diversity issues that affect applied technology, training and development. Effective strategies and model programs will be discussed to enhance individual development in applied technology classrooms and training and development courses.

5500. Research Seminar in Applied Technology, Training and Development. 3 hours.

The course focuses on research issues in applied technology, training and development. Problems related to the fields of applied technology, organizational culture, training and human resource development, research designs and statistical methods for conducting research in training and development will be studied.

5530. Curriculum Development in Applied Technology, Training and Development. 3 hours.

Designed for applied technology and training professionals, this course focuses on curriculum theories, approaches to curriculum development and curriculum evaluation strategies. Includes development of goals, competencies, objectives, knowledge-based testing and performance-based testing.

5630. Principles of Marketing Education Program Administration. 3 hours.

Demonstration of key marketing education program concepts. Concentration on application of procedures and strategies with an emphasis on planning, implementing, and managing an effective marketing education program. Students design a comprehensive marketing education program. It is recommended that this course be taken at end of the certification course series as a capstone class.

5720. Evaluation Seminar. 3 hours. A seminar designed to assist master's candidates in conducting research in the field of applied technology, training and development, including the dissemination and discussion of findings. Scheduled during last resident registration. Prerequisite(s): ATTD 5480.

5800. Studies in Education. 1–3 hours. Organized classes specifically designed to accommodate the needs of students and the demands of program development not met by the regular offerings. Short courses and workshops concerned with specific topics are organized on a limited-offering basis, to be repeated only upon demand. May be repeated for credit.

5900-5910. Special Problems. 1–3 hours each. Open to graduate students who are capable of developing a problem independently. Open only to resident students.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

6030. Practicum, Field Problem or Internship. 3 hours.

Supervised professional activities in vocational education. Registration is on an individual basis. May be repeated for credit.

6100. Technological Innovations in Training and Development. 3 hours.

Study of current technological trends in the field of training and development. Emphasis on technologies used in the design, development and support of training programs.

6200. Leadership Development in Applied Technology and Training. 3 hours.

The function of the applied technology administrator and training facilitator as a professional leader in developing, planning, organizing, controlling, coordinating and evaluating programs, services and activities.

6210. Trends and Issues in Applied Technology, Training and Development. 3 hours.

A study of current national trends and issues in the fields of applied technology, training and development. Emphasis on topics related to leadership, organizational culture and total quality improvement.

6450. Needs Analysis and Curriculum Development. 3 hours.

A study of learning outcomes, including goals, general objectives and performance objectives. Emphasis on curriculum derivation utilizing a competency-based curriculum system.

6460. Consulting Skills. 3 hours.

Overview of the role of the consultant in HRD. Skills of organizing a practice, marketing consulting services, performing consulting services and performing practice management procedures.

6470. Evaluation and Accountability in Applied Technology and Training. 3 hours.

Methods and procedures used in evaluating applied technology and industrial training programs; services, activities and current practices used in determining and improving accountability.

6480. Research Seminar. 3 hours.

An orientation to basic methods of doctoral dissertation research in applied technology, training and development; including the scientific methods as a basis for analysis and interpretation of results. Students begin preparation of a dissertation proposal in the field of applied technology, training and development. This course should be taken in the last 15–18 semester hours of the program.

6900-6910. Special Problems. 1–3 hours each. Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs. Conferences with professors in the fields also are included.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of department. 12 hours credit required.

No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

Computer Education and Cognitive Systems, CECS

5010. Computer Education Tools. 3 hours. Application of computer software tools in education. Study of computer application packages and their utilization in the classroom.

5020. Computers in Education. 3 hours. Analysis of computer use in education and applications programming in education. Topics include software and hardware evaluation, planning computer education curricula and facilities. Prerequisite(s): CECS 5010 (may be taken concurrently).

5030. Introduction to Internet. 3 hours. Introduction to Internet technology. Using the Internet for research and professional productivity.

5100. Educational Computer Languages. 3 hours. An in-depth study of an Object-Oriented Programming Language. Requires “hands-on” programming independent of classroom instruction. Topics include variables, simple and complex data structures, object-oriented design, debugging, interface design plus creating and using objects. Educational implications of object-oriented programming. Prerequisite(s): CECS 5020 or consent of department.

5110. Multimedia in Technology Applications. 3 hours. Study and analysis of the use of the computer to deliver instruction. Topics include design, development and review techniques for CAI, current trends in CAI technology and lesson development with an authoring language. Prerequisite(s): CECS 5020.

5111. Introduction to Video Technology. 3 hours. Basic skills in the production of audio and video materials for multimedia and other digital presentation media. Study of both analog and digital production techniques, nature of audio and video signals, and how those signals are optimized in both the analog and digital domains. Other topics include camera techniques, shot composition, scene construction and visual continuity, audio techniques, script preparation, optimization of finished product and distribution mediums. Prerequisite(s): CECS 5010 or equivalent.

5120. Authoring Systems. 3 hours. Creation of comprehensive computer-based instructional systems that integrate presentation of materials with the monitoring of student performance and modification of the instructional system based on both internal and external factors. The class will focus on the use of current authoring system tools to develop representative systems.

5130. Educational Software Development. 3 hours. Application of software engineering principles to the development of educational software using high-quality human/computer interaction as the primary design criterion. Each student completes a major educational software development project during the course. Prerequisite(s): CECS 5100, 5110 or 5120, and 5210.

5200. New Technologies of Instruction. 3 hours. Selection, utilization and evaluation of media technology, and techniques used in the instructional programs of education and industry. Includes hands-on digital audio and visual processes.

5210. Instructional Systems Design. 3 hours. The design of instructional systems is examined through research reports on the theoretical assumptions of learning and analysis of learning systems as they apply to the development of educational and instructional training programs.

5260. Computer Graphics for Mediated Communications. 3 hours. Application of computer graphics to the preparation and presentation of mediated materials. Includes principles of graphics communication, concepts in computer graphics, graphics input systems, graphics manipulation software and graphics output systems.

5300. Cognitive Processing. 3 hours. The study and analysis of models of cognitive systems including acquiring, manipulating, storing, interpreting and using information; special emphasis on the unique interactions between human information processing and computer-based processing as they apply to the instructional environment.

5310. Human-Computer Interaction. 3 hours. Study of the human as an information processor. Computer interface design that takes into consideration human capabilities and limitations. Educational implications of system input/output facilities. Impact upon instructional system design. Prerequisite(s): CECS 5210 or consent of department.

5400. Educational Telecommunications. 3 hours. Study and analysis of past and currently-emerging telecommunication technologies and their application to the field of education. Topics include history of telecommunication, digital and wireless communications, computer networks and distance education.

5420. Web Authoring. 3 hours. Course to aid education and training professionals in creating web-based materials and application utilizing Internet resources. Integration of text, graphics and multimedia elements in a web environment. Prerequisite(s): CECS 5260.

5440. Wireless Communications. 3 hours. Survey of wireless telecommunications systems and techniques including low-cost radio and satellite technologies potentially useful to educators. Prerequisite(s): CECS 5400.

5450. Building Internet Information Services. 3 hours. Design and implementation of Internet information services including FTP, conferencing and the World Wide Web. Students design and build various information services using software tools and hardware platforms representative of those used in education and training.

5460. Computer Networks for Educational Environments. 3 hours. Study of computer networks used in support of education and training. Includes topics in network topologies, wiring, administration, risk management and disaster recovery. Special emphasis is placed on the application of network technologies to K-12 educational environments, higher education and the training environments of business, industry and the military.

5500. Computer Applications for Curriculum and Instruction. 3 hours. Designed for both elementary and secondary teachers; skills and methods necessary to implement computer applications within the curriculum. Methods for managing the computer in the classroom; courseware implementation; utilization of word processing, databases, spreadsheets and telecommunications within the curriculum. Methods of teaching computer programming. Prerequisite(s): CECS 5020.

5510. Technology-Based Training Systems. 3 hours. An overview of the management and utilization of technology-based training practices in corporate settings. The selection, development, organization and delivery of training to adult learners are tied to instructional development systems. Special attention is given to the role of instructional technologists and the skills, responsibilities and job requirements of the position.

5570. Ethical, Legal and Professional Issues in Computing. 3 hours. Focus on research literature and current issues dealing with ethical and legal issues within the computing profession. Includes units on intellectual property, moral philosophy, gender and minority issues affecting computer education.

5580. Readings Seminar in Computer Education and Cognitive Systems. 3 hours. Broad reading in a defined area of technology interaction. Requires the critical evaluation of sources with particular emphasis on methodology and application to educational environments. CECS majors must take this course during the last 6 hours. Prerequisite(s): consent of department.

5600. Technology Applications Practicum. 3 hours. Supervised professional activities that involve developing instructional strategies and assessments for technology applications that can be adapted for all levels of learner. Includes the creation of an instructional unit that is aligned with the Technology Application TEKS at each level. Prerequisite(s): CECS 5020, 5030, 5100 and 5111.

5610. Analysis of Research in Educational Technology. 3 hours. Interpretation, analysis and synthesis of current research in educational technology for the purpose of integrating research methodology and application to educational environments. Prerequisite(s): consent of department.

5800-5810. Studies in Education. 3 hours each. Organized classes specifically designed to accommodate the needs of students and the demands of program development that are not met by the regular offerings. Prerequisite(s): consent of department. Limited-offering basis; may be repeated for credit.

5900-5910. Special Problems. 1–3 hours each. Independent study and research. Prerequisite(s): consent of department and instructor. May be repeated for credit.

5960. Education Institute. 1–6 hours. For students accepted as participants in special institute courses. Prerequisite(s): consent of department.

6000. Philosophy of Computing in Education. 3 hours. Examination of the philosophical underpinnings of use of computers in education: why we are interested in this technology; what we hope to accomplish; intended and unintended changes that will occur by its use.

6010. Theories of Instructional Technology. 3 hours. Examination and understanding of the underlying philosophical approaches to learning and the paradigms that guide instructional design. How the use of computing and other technologies are enabled within each paradigm.

6020. Advanced Instructional Design: Models and Strategies. 3 hours. Provides students with advanced instructional design and development skills as well as the conceptual underpinnings for various instructional design models. Familiarizes students with a number of different design models that can be used in corporate and/or educational settings. Prerequisite(s): CECS 6010.

6030. Emerging Technologies in Education. 3 hours. Investigation of the challenges and opportunities emerging technologies in educational environments. Emphasis on understanding their use to meet educational needs and goals. Prerequisite(s): CECS 6220.

6050. Practicum/Internship. 3 hours. Supervised professional activities in the profession. Students spend a predetermined number of hours working with an appropriate site in education or business. During class meetings, students review practicum experiences and analyze issues associated with a career in the profession. Prerequisite(s): minimum of 15 hours in the program.

6100. Theory and Practice of Distributed Learning. 3 hours. Introduction to current theories of distributed learning systems with application towards planning, development, utilization and evaluation. Various distributed learning systems are investigated, including applications to distance education. Prerequisite(s): CECS 5210.

6200. Message Design in Education. 3 hours. Study of the relationship between information, meaning, learning and instruction. Principles of message communicating information in learning environments. The design and delivery of educational messages using both verbal and print mediums. Prerequisite(s): CECS 5200 and 5210.

6210. Interactive Video. 3 hours. Utilization of research and application of interactive, multimedia computer technologies in the design and production of interactive learning systems. Emphasis on leading-edge delivery technologies. Prerequisite(s): CECS 5220 and 5420.

6220. Theory of Educational Technology Implementation. 3 hours. Examination of classic and contemporary research to develop an understanding of the issues of successful technology implementation and the implications in educational environments. Prerequisite(s): CECS 6010.

6230. Advanced Educational Production Design. 3 hours. Advanced design and implementation of educational multimedia and hypermedia products utilizing strategies from message design, human factors research, learning theory and other theoretical and critical approaches. This is a project-based course emphasizing analysis design, development, implementation and evaluation. Prerequisite(s): CECS 5210, 5260, 5220, 5420 or equivalent technical production expertise.

6300. Artificial Intelligence Applications. 3 hours. Theoretical and practical educational applications of AI are discussed. Topics studied include neural computing, social issues in AI, natural language processing and robotics. Prerequisite(s): CECS 5100 or equivalent programming course and consent of instructor.

6320. Creating Technology-based Learning Environments. 3 hours. Study of the design and development of technology infused learning environments. Develops understanding of constructivist philosophy of keeping students active, constructive, collaborative, intentional, complex, contextual, conversational and reflective. Prerequisite(s): CECS 6010, CECS 6020 and CECS 6210.

6400. Educational Technology Systems Design and Management. 3 hours. Analysis of systems and facility design, organizational patterns, administrative strategies, and alternative structures for achieving and evaluating media-based instruction. Includes models and methods of selection, construction, procurement and control of hardware systems in educational settings. Management tools including protection of intellectual property, security issues and budgeting strategies are included.

6510. Analysis of Research in Educational Computing. 3 hours. Students analyze current research in educational computing as a tool for understanding the unique characteristics of technology-based research activities in educational environments. Special consideration is given to strategies for separating influences in research designs that incorporate technology as tools and as variables in the design. Students identify potential dissertation research topics and prepare preliminary reports that are critiqued in class in preparation for doing the dissertation. Prerequisite(s): EDER 6010 and 6020, with EDER 6300 strongly encouraged, or other relevant research experience as approved by the faculty.

6600. Developing Educational Funding Opportunities. 3 hours. The ideal grant is a match between the needs of an organization and the desires of a funding agency. Students examine grants from both viewpoints and build on that knowledge to write effective grant proposals. In addition to investigating some of the logistics of grant-writing, this course examines the relationship between a granting agency and its recipients.

6800. Special Topics in Educational Computing. 3 hours. Organized classes specifically designed to accommodate the needs of students and the demands of program development that are not met by the regular offerings. Prerequisite(s): consent of department. Limited-offering basis; may be repeated for credit.

6900-6910. Special Problems. 3 hours each. Independent study and research in fields of special interest. Conferences with professors in the fields are also included. Problems must be approved in advance by the instructor and the department chair. May be repeated for credit.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

Educational Psychology, EPSY

5000. Introduction to Educational Psychology. 3 hours. Educational implications and applications of research on child development, cognition, learning, motivation and assessment to improve the teaching and learning process.

5101. Human Learning and Motivation. 3 hours. Exploration of the theoretical and applied basis for how the mind processes information in order to facilitate the development of instructional materials. Examination of the impact of motivation and beliefs on the acquisition of information. Prerequisite(s): EPSY 5000.

5105. Educational Research and Evaluation. 3 hours. Methods and limitations of educational research. Procedures, strengths and limitations of the research process.

5106. Action Research for Multicultural Education. 3 hours. Provides graduate students with opportunities to review the literature on action research and multicultural populations and to develop basic skills in action research methodology related to multicultural education.

5210. Educational Statistics. 3 hours. Descriptive and inferential statistical concepts and techniques commonly used in educational research. Organization of data, graphical representation, measures of central tendency and variability, normal distribution curve, sampling theory and tests of significant differences between related and independent samples.

5220. The Evaluation of Educational Programs. 3 hours. Models for program evaluation with emphasis on design, instrumentation, information processing and data interpretation. The content and methodology of the course are appropriate for educators working in elementary and secondary schools as well as colleges and universities.

5240. Survey Research Methods in Education. 3 hours. History of surveys, information needs, sampling design, instrumentation data collection, data processing and report generation.

5250. Grant Proposal Writing Techniques. 3 hours. Investigation of state and federal grant funding sources. Introduction to and application of grant proposal writing techniques.

5350. Educational Evaluation and Assessment. 3 hours. Instrumentation and procedures for evaluating and assessing learning in elementary, secondary and higher education settings, including planning for instruction and assessment, designing and using classroom tests, utilizing performance-based assessment strategies and communicating student progress. Specifics include test specifications, item-writing strategies, item analysis, test construction, test score characteristics, alternative assessment strategies, interpretation of data from standardized tests and grading systems.

5800. Studies of Educational Psychology. 3 hours. Organized class specifically designed to accommodate the needs of students and the demand of program development that are not met by regular offerings. May be repeated for credit. Prerequisite(s): consent of department.

5900. Special Problems. 1–3 hours. Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and developed thorough conferences with the instructor. Prerequisite(s): consent of department.

5920. Research Problem in Lieu of Thesis. 3–6 hours. Research dealing with a significant problem in educational psychology. Prerequisite(s): consent of department.

5950. Master's Thesis. 3–6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

Educational Research, EDER

5230. Cognitive and Performance Evaluations. 3 hours. Introduction to cognitive and performance measurement and evaluation. Course covers development of knowledge-based tests, development of performance-based tests and the evaluation of training. Measurement strategies for cognitive and performance testing are combined with evaluation strategies.

5900. Special Problems. 1–3 hours. Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor. Open only to resident students.

6005. Statistical Theory and Simulations. 3 hours. Statistical theory and simulation of statistical distributions. Topics include factors affecting sampling distributions, sampling from different distributions, Chebyshev's theorem, Central Limit Theorem, probability distributions, statistical distributions (normal, t, chi-square, correlation, regression), Power (sample size, Type I error, Type II error, confidence interval, effect size), Monte Carlo, meta-analysis, bootstrap and jackknife techniques.

6010. Statistics for Educational Research. 3 hours. The application of statistical techniques to research in education; the development of skills in interpreting statistical concepts. Analysis of variance and covariance, multiple comparisons, non-parametric statistics and multiple correlation. Prerequisite(s): EPSY 5210 or equivalent. Required of all doctoral candidates in education.

6020. Research Methods in Education. 3 hours. Introduction to quantitative (survey, experimental design, correlation, causal-comparative, evaluation) and qualitative (case study, observation, action, participant-observation, historical, ethnograph, phenomenology) research methods used in conducting educational research. Prerequisite(s): EPSY 5210 and 6010 or equivalents.

6030. Practicum, Field Problem or Internship. 3 or 6 hours. Assignments may be made in stations either on or off campus. Activities include consultation in research design, data analysis, preparation of data for computer analysis and writing of research reports.

6210. Multiple Regression Analysis and Related Methods. 3 hours. Introduction to and application of multiple regression and related methods to analysis of data from correlational and experimental studies in education and related disciplines. Topics include introduction to the general linear model, simple and multiple linear regression analysis, data inspection and transformation, non-linear regression, trend analysis, cross validation procedures and utilization of statistical software for conducting regression analyses. Prerequisite(s): EDER 6010 and 6020 or equivalents; EDER 6240 or equivalent is also recommended.

6220. Classical and Modern Educational Measurement Theory. 3 hours. A comparison of norm-referenced and criterion-referenced reliability, validity, item analysis and test construction. Specifics include classical true score, generalizability and latent trait (Rasch and IRT) theoretical development and applications. Prerequisite(s): EPSY 5350 or equivalent measurement course.

6230. Advanced Research Design. 3 hours. Analysis of data and interpretation of results in various experimental research designs, including factorial, repeated measures, nested and Latin square designs. Prerequisite(s): EDER 6010 and 6020 or equivalents; EDER 6240 or equivalent is also recommended.

6240. Educational Data Processing. 3 hours. Use of data analysis in the planning and implementation of educational research projects. Emphasis on statistical packages, organization and collection of data, computing hardware and software, and various data display and reporting techniques. Prerequisite(s): EDER 6010 and 6020.

6250. Advanced Educational Measurement Applications. 3 hours. Advanced measurement theory, item analysis, test construction, reliability and validity. Classical, generalizability, Rasch and IRT techniques are used to provide experience in analyzing and interpreting test data. Prerequisite(s): EPSY 5350 or EDER 6220 or equivalent.

6260. Advanced Seminar in Educational Research. 3 hours. Study and discussion of contemporary issues and new advances in research design, statistics, measurement and evaluation. Prerequisite(s): EDER 6210, 6220, 6230 and consent of the department.

6270. Structural Equation Modeling. 3 hours. Multiple regression, path analysis and factor analysis methods are reviewed. Structural Equation Modeling (SEM) approaches using AMOS, EQS, LISREL, MPLUS and other personal computer application software are presented. The basic SEM approaches include path models, factor models, interaction models, MIMIC models, multi-level models, latent growth curve models and multiple group models. Prerequisite(s): EDER 6290 or equivalent multivariate statistics course.

6280. Qualitative Research in Education. 3 hours. Focus on the knowledge and skill necessary for naturalistic research; observation, interviewing and other data collection procedures, as well as data retrieval, analysis techniques and reporting procedures. Prerequisite(s): EDER 6010 and 6020, or equivalents.

6285. Qualitative Data Analysis in Education. 3 hours. Data collection, analysis and interpretation using qualitative methodology such as participant observation and interviewing for data gathering; constant comparative/grounded theory and modified analytic induction for data analysis. Use of computer software programs for qualitative data analysis. Students will complete a qualitative study consisting of at least 45 hours of field work during the term/semester. Prerequisite(s): EDER 6280.

6290. Multivariate Statistics in Education. 3 hours. History of multivariate statistics, univariate vs. multivariate statistics, matrix algebra, multivariate analysis of variance, canonical correlation, discriminant analysis and multivariate analysis of contingency tables. Prerequisite(s): EDER 6010 and 6210.

6300. Applied Research in Education. 3 hours. Design, implementation and presentation of research in education. Course will result in a completed research project suitable for presentation to an external audience of peers. Prerequisite(s): EDER 6010 and 6020.

6850. Selected Topics in Education. 1–6 hours. Organized classes specifically designed to meet the needs of doctoral students in the College of Education. Intensive study of a selected timely topic.

6900. Special Problems. 1–3 hours. Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs. Conferences with professors in the fields also are included.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

Special Education, EDSP

5010. Characteristics of Individuals with Mental Retardation. 3 hours. An overview of the field of mental retardation and developmental disabilities that includes an analysis of definitions, etiological factors, classification schemes and intervention models. Prerequisite(s): EDSP 5710 or consent of department.

5105. Nature and Needs of the Gifted and Talented Student. 3 hours. Introduction to the intellectual, social, emotional and educational characteristics and needs of gifted, talented and creative individuals. Includes study of varied conceptions of gifted, talented and creative research findings.

5110. Social and Emotional Components of Giftedness. 3 hours. Review of current research on affective growth and potential adjustment problems of gifted youth. Addresses vocational concerns, self-concept and self-esteem, the teacher's role in preventing or remediating affective problems related to giftedness, and potential parenting or family problems.

5120. Program Planning for the Education of Gifted and Talented Students. 3 hours. Instruments and procedures for identification of gifted, talented and creative students. Major curriculum and program models; evaluation of programs.

5130. Methods and Curriculum for Teaching Gifted and Talented Students. 3 hours. Curriculum theory, methods and materials to meet the special educational needs of gifted, talented and creative children. Strategies for individual assessment, modification of standard curriculum, design of instructional materials and classroom organization for grades K–12. Includes theories and models of creativity and higher-level thinking.

5200. Characteristics of Individuals with Learning Disabilities. 3 hours. Overview of the field of learning disabilities that includes an analysis of definitions, etiological factors, classification schemes and intervention models. Prerequisite(s): EDSP 5710 or consent of department.

5210. Collaboration for Inclusion Settings. 3 hours. Consultation models, practices and principles as applied in the education of exceptional and at-risk children and youth. Models advocating collaboration, cooperative learning and full inclusion are stressed. The applicability of consultation models to learning strategies curriculum is a focal point. Prerequisite(s): consent of department.

5220. Learning Strategies for Individuals with Cognitive Disorders. 3 hours. Focus on learning strategies designed for individuals with disabilities. Prerequisite(s): EDSP 5010, 5200 and 5600, or consent of department.

5230. Advanced Seminar in Learning Disabilities: Educational Theories and Practices. 3 hours. Focused analysis of the theoretical basis of learning disabilities and the instructional implications and applications of those theories. Prerequisite(s): EDSP 5200 and 5220, or consent of department.

5240. Collaboration with Parents, Paraeducators and Professionals. 3 hours. Communication and collaboration models and strategies in working with parents, caregivers and professionals concerned about exceptional learners. Emphasis on the changing definition of families and changing demographics and the implications these changes have for effectively involving others in the decision-making for exceptional learners. Analysis made of legal mandates and availability of resources to ensure quality services for exceptional learners.

5320. Introduction to Functional Assessment. 3 hours. Focuses on various dimensions of functional assessment of behavior and academic performance of children and youth with disabilities and/or at-risk for academic and social failure. Emphasis on a process for conducting functional assessments and gathering information applicable to the development of effective positive behavioral supports and intervention plans. Prerequisite(s): EDSP 5710 or equivalent; EDSP 5600 or 5730; consent of the department.

5330. Classroom and Behavioral Management Strategies for Exceptional Learners. 3 hours. Focus on a variety of classroom-based approaches to aid in the behavioral management of exceptional learners. Students learn how to implement individualized techniques including applied behavioral analysis, as well as larger-group strategies, to foster positive behavioral, social and emotional growth. Special attention is given to the development of behavioral intervention plans and positive behavioral supports for students with challenging behaviors.

5350. Educational Programming for Students with Autism Spectrum Disorders. 3 hours. Focus on the unique programming needs of students with autism spectrum disorders. Specific educational and behavioral interventions are discussed as well as several of the more controversial therapies. Characteristics associated features of students with autism and Asperger's Syndrome are presented. Prerequisite(s): EDSP 5710 or equivalent, consent of the department.

5360. Assessment of Autism Spectrum Disorders. 3 hours. Focuses on the assessment needs of children with autism spectrum disorders. The various components of a complete education evaluation are discussed as well as how to apply assessment information in planning the programming needs for children with autism spectrum disorders. Various evaluation tools and procedures are reviewed and demonstrated. Prerequisite(s): EDSP 5710 or equivalent; EDSP 5550, consent of the department.

5370. Autism Across the Life Span. 3 hours. Examination of the needs of children and youth with autism spectrum disorders across the life span. Numerous issues are examined in depth along with the implications that each issue has for maximizing individual potential. Prerequisite(s): EDSP 5710 or equivalent; EDSP 5350 and 5360; or consent of the department.

5410. Advanced Practicum: Gifted and Talented. 3 hours. (1;5; other–30 hours of supervised experience per week) Demonstration in a gifted and talented educational setting of professional competencies during a minimum 110 hours of supervised practicum experiences. Responsibility for development and implementation of educational plans for gifted and talented learners. Teacher role identification and relationships are examined in structured seminars. Prerequisite(s): EDSP 5105, 5110, 5120 and 5130, or consent of instructor.

5420. Field Experience with Children and Youth with Learning Disabilities. 3 hours. Supervised field experience with children and youth with learning disabilities. Typically, placement will be within a minimum of two educational settings. Prerequisite(s): EDSP 5020, 5210, 5220, 5230 and consent of department. Students must apply for consent to take this course at least six weeks prior to enrollment. Students may enroll for 1 to 6 hours credit in any given term/semester; field experience of 2.5 hours per week required for each hour of enrollment.

5430. Advanced Practicum: Special Education. 3 hours. Demonstration in a special education setting of professional competencies during a minimum 110 hours of supervised practicum experiences. Responsibility for development and

implementation of individualized plans for the exceptional learner. Special education teacher role identification and relationships are examined in structured seminars.

5510. Educational Appraisal of Exceptional Learners. 3 hours. Examinations of basic testing procedures and terminology as related to the exceptional learner. Analysis of statistics used in test development and interpretation of test data. Utilization of test data in developing individual education plans. Examination of curriculum-based assessment issues. Field experiences include administration of academic and teacher-made assessments.

5520. Special Education Law. 3 hours. Provides teachers, educational diagnosticians and school administrators the opportunity to examine the legal requirements for educating special populations, particularly individuals with disabilities. A course fee of \$600 per term/semester is assessed for IMPACT candidates.

5530. Individualized Diagnostic Assessment I: Practicum. 3 hours. Demonstration of competency in developing test batteries for students with different handicapping conditions and in administering and interpreting the batteries. Development of an individual plan for each battery administered. Prerequisite(s): EDSP 5510.

5540. Individualized Diagnostic Assessment II: Practicum. 3 hours. Demonstration of competency in administration, scoring and interpreting test instruments appropriate for students with different types of handicapping conditions. Development of test batteries for students at varying age levels. Prerequisite(s): EDSP 5510 and 5530.

5550. Theories of Learning as Applied to Exceptional Populations. 3 hours. Examination of theories of learning relevant to exceptional populations. In-depth comparison of principles across theories.

5600. Characteristics of Children/Youth with Emotional and Behavioral Disorders. 3 hours. Overview of topics related to children and youth with emotional and behavioral disorders, including characteristics, assessment, diagnosis and evaluation. Investigation of risk factors for the development of severe behavioral problems and classroom-based interventions. Prerequisite(s): EDSP 5710 or consent of department.

5610. Educational Theories and Practices Relative to Children/Youth with Emotional and Behavioral Disorders. 3 hours. Analysis of various theoretical approaches that includes the psychodynamic, ecological and behaviorist theories utilized in designing intervention programs for individuals with emotional and behavioral disorders. Emphasis upon the application and effectiveness of approaches in a variety of educational and therapeutic environments. Prerequisite(s): EDSP 5600 or equivalent.

5620. Educational Programming for Children/Youth with Emotional and Behavioral Disorders. 3 hours. Emphasis is upon designing effective and efficient intervention programs for children/youth with emotional and behavioral disorders that are applicable to a variety of educational settings to include hospitals, mental health centers, and public and private schools. Prerequisite(s): EDSP 5600; EDSP 5610 (may be taken concurrently).

5630. Field Experience with Children/Youth with Emotional and Behavioral Disorders I. 3 hours. Supervised field experience with children and youth with emotional and behavioral disorders. Placement is in a minimum of two educational settings. Prerequisite(s): EDSP 5600 and consent of department. Students must apply for consent to take this course at least six weeks prior to enrollment. Field experience of 2.5 hours per week required for each hour of enrollment.

5640. Field Experience with Children/Youth Emotional and Behavioral Disorders II. 3 hours. Supervised field experience with children and youth with emotional and behavioral disorders. Placement is in educationally related environments. Prerequisite(s): EDSP 5600 and 5630, and consent of department. Students must apply for consent to take this course at least six weeks prior to enrollment. Field experience of 2.5 hours per week required for each hour of enrollment.

5650. Special Education in Juvenile Correctional Facilities. 3 hours. An overview of the juvenile justice system and correctional education with emphasis on the role of the special educator in meeting the needs of the handicapped juvenile offender.

5660. Transition of Youth with Emotional and Behavioral Disorders. 3 hours. An examination of all aspects of the transition of secondary school-aged youth from educational to community-based environments. Includes the rationale for transition programming, practices and procedures, interagency cooperation, school-based vocational preparation and work-study activities. Emphasis is placed on the role of the special education teacher in the transition process. Prerequisite(s): EDSP 5600 and consent of instructor.

5665. Advanced Transition Planning for Students with Emotional/Behavioral Disorders. 3 hours. Focuses on the taxonomy of transition as a model for planning, implementing and evaluating transition-focused education for students with disabilities. Emphasis on student-focused planning, student development, interagency collaboration, family involvement and program structures. Prerequisite(s): EDSP 5660.

5670. Teaching Social Skills to Children and Youth with Disabilities. 3 hours. An examination of theories underlying the acquisition of social skills by children and youth with disabilities. Specific teaching strategies, materials development and program implementation will be emphasized.

5684. Traumatic Brain Injury I. 3 hours. General overview of concepts and issues related to traumatic brain injury (TBI) in children/youth. Content is designed to provide professional educators with foundational knowledge and skills necessary to proactively support students with TBI and their families. Focus is on the definition of TBI, historical perspective of brain injury, basics of typical brain functioning, types of brain injury and their effects, issues related to school re-entry, rehabilitation, family issues, and transition. Prerequisite(s): consent of the department.

5685. Traumatic Brain Injury II. 3 hours. Gives students the opportunity to work as part of a collaborative team to analyze case studies, formulate school re-entry plans, and develop instructional and behavioral strategies for working with children and youth with traumatic brain injury. Included are a review of the common cognitive and psychosocial effects of traumatic brain injury, reintegration into school following the injury, individualized education planning, and transition plans for children and youth recovering from brain injury. Assessment, classroom strategies and the use of effective collaborative and teaming techniques will be emphasized. Prerequisite(s): EDSP 5684 and consent of the department.

5710. Special Education Programs and Practices. 3 hours. Presentation of special education roles, placement alternatives, legal implications, current status and trends in special education. Analysis of categories of exceptionality, characteristics and terminology.

5720. Analysis of Research and Research Design in Special Education. 3 hours. Interpretation, analysis, synthesis and application of research with exceptional populations. Demonstration of oral and written competence in specialization field and related areas.

5730. Educational Aspects of Students with Mild to Moderate Disabilities. 3 hours. Examination of historical, theoretical and learning of students with mild to moderate disabilities, including learning disabilities, mental retardation and emotional/behavioral disorders. A life span view of intervention models, as well as curricular adaptations across content areas is explored.

5740. Learning Strategies for Promoting Proficiency in Reading and Language Arts for Exceptional Learners. 3 hours. Educational strategies and interventions that promote academic performance of individuals with mild to moderate disabilities in English language arts and reading.

5750. Learning Strategies for Promoting Proficiency in Math and Content Area Subjects for Exceptional Learners. 3 hours. Educational strategies and interventions that promote academic performance of individuals with mild to moderate disabilities in mathematics and in content areas across a variety of settings and situations.

5755. Adapting Curriculum to Meet Special Learning Needs. 3 hours. Instructional strategies and curriculum modifications for working with special needs and diverse learners in the inclusion classroom. Topics include curriculum based assessment, adapting materials for special needs learners, appropriate interpretation of inclusion legislation, effective use of technology in an inclusion classroom, legal rights of special needs learners, strategies that facilitate learning and culture fair assessment practices. Prerequisite(s): admission into graduate program.

5760. Multicultural Theory and Best Practice in Special Education. 3 hours. Focuses on learners with special needs from a multicultural perspective. Students explore the impact of an individual's interactions and learning when a diverse cultural or linguistic background coexists with a disability or giftedness. Attention is given to multicultural theories and best teaching practices.

5800. Studies in Special Education. 3 hours. Organized classes specifically designed to accommodate the needs of students and the demands of program development that are not met by the regular offerings. Short courses and workshops on specific topics organized on a limited-offering basis, to be repeated only upon demand. May be repeated for credit.

5900-5910. Special Problems. 1–3 hours each. Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor. Open only to resident students.

5950. Master's Thesis. 3 or 6 hours. To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate dean. Continuous enrollment required once work on thesis has begun. May be repeated for credit.

6030. Practicum, Field Problem or Internship. 3–6 hours. Supervised professional activities in special education. Registration is on an individual basis. Required of all doctoral candidates.

6270. Analysis of Trends, Issues and Research in Special Education. 3 hours. Investigation and analysis of recent trends, issues and research in special education. Emphasis on how these will affect special education programs. Special attention to competency-based programs, accountability and individualized programming.

6280. Program Analysis in Special Education. 3 hours. Focus is upon the role and responsibility of leadership personnel in special education and the issues and trends relative to the administration and supervision of special education programs.

6290. Special Education and Public Policy. 3 hours.

Examination of the current social, political and economic factors influencing the public policy decisions affecting special education programs and practices. Major historical public policy decisions affecting special education are used to examine current and proposed public policy decisions. Prerequisite(s): EDSP 6270 or consent of department.

6300. Program Development for Providing Quality Services to Children and Youth with Emotional and Behavioral Disorders. 3 hours. From the perspective of leadership personnel, emphasis is on examining and designing components required to ensure quality services for children and youth with emotional and behavioral disorders within educational and therapeutic environments. Development of formal proposals for research and practice are a part of the course.

6310. Current Research and Best Practices in the Education and Treatment of Children/Youth with Emotional and Behavioral Disorders. 3 hours. Focus on the analysis of current research and best practices in the field of emotional and behavioral disorders.

6320. Computing Applications for Special Populations. 3 hours. Focus on instructive and adaptive applications of computer technology to the educational and life needs of individuals with exceptional learning, cognitive and/or behavioral characteristics. Issues related to equity and accessibility are discussed. Prerequisite(s): consent of department.

6410. Theoretical Issues in Learning Disabilities. 3 hours. Analysis of the theoretical issues surrounding a life-span approach to learning disabilities. Emphasis is on the cognitive, social and neuropsychological research applicable to learning disabilities. Educational implications of the research also are addressed.

6440. Research Issues in Special Education. 3 hours. Analysis of current research issues and problems unique to exceptional populations. Content includes design, methodology and statistical topics. Prerequisite(s): EDSP 6270, 6310, 6410; EDER 6010 and 6210, or consent of department.

6800. Topics in Special Education. 3 hours. Organized seminars designed to accommodate the needs of post-master's level students and the demands of program development that are not met by regular course offerings. Examples of topics that may be covered include: issues related to aggression and violence; implications for prevention and treatments; and strategies to address the needs of diverse learners with special needs and their families. Short courses and special seminars on specific topics organized on a limited-offering basis. May be repeated for credit.

6900-6910. Special Problems. 1–3 hours each. Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs. Conferences with professors in the fields also are included.

6950. Doctoral Dissertation. 3, 6 or 9 hours. To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate dean. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

Special Education Courses Offered at Texas Woman's University

Students wishing to enroll in the following TWU courses will do so through a cross-registration mechanism administered by the School of Graduate Studies at UNT.

EDUC 6023. Practicum in Assessment and Evaluation of Individuals with Disabilities. Required of all doctoral students in special education; administration and interpretation of educational, communicative, audiological and psychological tests given to individuals with disabilities. 7 laboratory hours a week. Prerequisite(s): proficiency in tests and measurements and permission of instructor. May be repeated for credit.

EDUC 6103. Social, Psychological and Educational Aspects of Mental Retardation and Developmental Disabilities. Advanced study of etiology, remediation and education of individuals with mental retardation and developmental disabilities. 3 lecture hours a week. Prerequisite(s): EDUC 5103 or equivalent courses in the area and permission of instructor.

EDUC 6333. Seminar in Emotional and Behavioral Disorders. Study of adjustment and emotional problems in individuals assigned to various least restrictive environments. Research related to etiology, conceptual models and interventions. 3 lecture hours a week. Prerequisite(s): EDUC 5303 or equivalent courses and permission of instructor.

EDUC 6403. Seminar in Learning Disabilities. Advanced study of physical, psychological and environmental causes of learning disabilities, and interrelationships among the causes. 3 lecture hours a week. Prerequisite(s): EDUC 5443 or equivalent courses in the area and permission of instructor.

EDUC 6423. Seminar in Policies and Procedures of Special Education Administration. Theory, research and practices related to special education administration. Analysis of administrative behavior, the process of decision making, special education leadership and organization changes, models of state and federal funding, budgeting, litigation procedures and program evaluation. 3 lecture hours a week. Prerequisite(s): EDUC 5603 or equivalent courses in the area and permission of instructor.

EDUC 6723. Practicum. 3–12 hours. Field placement. Type of placement will vary with student's area of major concentration and past experiences. Prerequisite(s): 12 semester hours of doctoral credit or permission of instructor.

EDUC 6903. Special Topics. Variable content; topics selected as needed. 3 lecture hours a week.

Theatre Arts

see Dance and Theatre

Theory, Music

see Music

University Courses

University Courses, UCRS

The following University Courses are interdisciplinary in nature and are available to students working toward the master's degree with the interdisciplinary major.

5010. Interdisciplinary Seminar. 1-6 hours.

5800. NT DC Internship. 1–6 hours. Provides students with insights into public life, the policy-making process, and governmental agency interaction through supervised work experience in governmental, nonprofit and private sector placements in our nation's capital. Prerequisite(s): Open only to students accepted to the NT DC Cooperative Governmental Internship Program. Application information available from the Student Development Office.

5900. Special Problems. 1–3 hours.

5920. Research Problems in Lieu of Thesis. 3 hours.

5950. Master's Thesis. 3 or 6 hours. To be scheduled by the student who wishes to present a thesis as part of the interdisciplinary degree program.

Women's Studies

Women's Studies, WMST

5800. Seminar in Women's Studies. 3 hours. Interdisciplinary study of a major topic focusing on women's issues, feminism, and/or the women's movement. Seminar extends the scope of course offerings in specific disciplines. May be repeated for credit as topics vary. Prerequisite(s): consent of program director.

5850. Professional Internship. 3 hours. Practical experience through employment in a company, organization or agency primarily serving women. Objectives and duties of the internship to be formulated by the student, the women's studies director and the partnering entity. Formal application process must be completed and approved in advance of enrollment. Internships are 20 hours per week and are unpaid. Prerequisite(s): 12 credit hours in women's studies; consent of program director.

5900. Special Problems. 1–3 hours. Supervised individual or small group study of special problems or topics not otherwise covered by regular offerings.

6900. Special Problems. 1–3 hours. Course open to graduate students doing independent research. Prerequisite(s): consent of program director.

Faculty

All personnel listings in this section are based on information available when this bulletin went to press.

A new system for the selection of graduate faculty members was approved by the Graduate Council in October 1992. Under this system, all full-time faculty members of the rank of assistant professor, associate professor and professor are members of the graduate faculty, but individual faculty members may be classified as Category I, II or III. The qualifications for appointment to a category depend upon the faculty member's record of scholarly, creative and research activities. Category III reflects the highest level of scholarly attainment. Faculty members in any of the three categories may serve on thesis or dissertation committees as a member. Category II faculty members may serve as directors of thesis committees and co-directors of dissertation committees. Graduate faculty members in Category III are the only faculty eligible to serve as chairs of dissertation or doctoral lecture recital committees.

Effective August 22, 1994, each faculty member must be a member of the appropriate graduate faculty category to direct new theses or dissertations. A complete listing of graduate faculty members in Category I, II and III is available in the Toulouse School of Graduate Studies or through the graduate school web site at www.gradschool.unt.edu. Students are advised to consult this list regarding the selection of faculty advisers for theses and dissertations.

Graduate faculty of the Graduate School of Biomedical Sciences at the University of North Texas Health Science Center at Fort Worth (UNTHSC-FW) also are members of the graduate faculty of the University of North Texas and thus can serve as mentors or committee members of UNT graduate students appropriate to their graduate appointment. See the UNTHSC-FW *Graduate Catalog* for UNTHSC-FW graduate faculty listings.

JACKSON, LEE, Chancellor of the University of North Texas System. BA, Duke University; MPA, Southern Methodist University.

POHL, NORVAL, President of the University of North Texas, Vice Chancellor for Academic Affairs of the University of North Texas System, and Professor of Information Technology and Decision Sciences. BA, MBA, California State University; PhD, Arizona State University.

ABEL, MICKEY, Assistant Professor of Visual Arts. PhD, University of Texas at Austin.

ACEVEDO, MIGUEL, Professor of Geography. BSEE, MSEE, University of Texas at Austin; MEng, PhD, University of California at Berkeley.

ACREE, WILLIAM, JR., Professor of Chemistry. BS, MS, PhD, University of Missouri at Rolla.

ADELMAN, AMIE, Assistant Professor of Visual Arts. BFA, Arizona State University; MFA, University of Kansas.

ADKISON, JUDITH A., Associate Professor of Teacher Education and Administration and Associate Dean of the College of Education. BA, Smith College; MA, PhD, University of New Mexico.

AKL, ROBERT, Assistant Professor of Computer Science and Engineering. BS, MS, DSc, Washington University.

ALA'I-ROSALES, SHAHLA, Assistant Professor of Behavior Analysis. BS, Southern Illinois University; MA, PhD, University of Kansas.

ALBARRAN, ALAN B., Professor and Chair of the Department of Radio, Television and Film. BA, MA, Marshall University; PhD, Ohio State University.

ALBRIGHT, JIM, Associate Professor of Journalism. BJ, University of Missouri; JD, University of Toledo.

ALLAART, PIETER C., Assistant Professor of Mathematics. MA, PhD, Free University of Amsterdam.

ALLEN, JEFF M., Associate Professor of Technology and Cognition. BAAS, MS, University of North Texas; PhD, Pennsylvania State University.

ALLEN, JOHN ED, Associate Professor of Mathematics. BS, Louisiana Polytechnic Institute; MS, PhD, Oklahoma State University.

ALLISON, JOHN M., Associate Professor and Chair of the Department of Communication Studies. BA, University of South Florida; MA, University of North Carolina; PhD, Louisiana State University.

ALORWOYIE, GIDEON FOLI, Associate Professor of Music. *Midawo* (High Priest) for the *Yeve* Cult; *Vugafola* (Master Drummer) and former Chief Master Drummer of the resident Ghana National Dance Ensemble.

AMLANI, AMYN, Assistant Professor of Speech and Hearing Sciences. BA, University of the Pacific; MS, Purdue University; PhD, Michigan State University.

AN, DAECHUN, Assistant Professor of Journalism. BS, Iowa State University; MA, Syracuse University; PhD, University of South Carolina.

ANDERSON, KAREN, Assistant Professor of Communication Studies. BA, Washburn University; MA, Texas Tech University; PhD, University of Kansas.

ANDERSON, MARK, Assistant Professor of Foreign Languages and Literatures. BA, University of Colorado; MA, PhD, University of California.

ANGHEL, NICOLAE, Associate Professor of Mathematics. BS, MS, University of Bucharest; PhD, Ohio State University.

ARMINTOR, DEBORAH NEEDLEMAN, Assistant Professor of English. BA, Brandeis University; MA, PhD, Rice University.

ATKINSON, SAMUEL F., Professor of Biological Sciences. BS, Oklahoma State University; MS, PhD, University of Oklahoma.

AUSTIN, JERRY L., Associate Professor of Visual Arts. BFA, University of Texas at Austin; MS, Texas A&M University-Commerce; MFA, Louisiana State University.

- AUSTIN, STEPHEN F., Associate Professor of Music.** BM, Howard Payne University; MM, University of North Texas; PhD, University of Iowa.
- AYRE, BRIAN, Assistant Professor of Biological Sciences.** BS, University of Manitoba; PhD, University of Alberta.
- BAEN, JOHN S., Professor of Finance, Insurance, Real Estate and Law.** BS, MUP, PhD, Texas A&M University.
- BAIER, JOHN L., Professor of Counseling, Development and Higher Education.** BS, GMI, Engineering and Management Institute; MEd, State University of New York at Buffalo; PhD, Southern Illinois University at Carbondale.
- BAIN, CHRISTINA, Assistant Professor of Visual Arts.** BFA, MS, Syracuse University; PhD, University of Georgia.
- BAIRD, JAMES LEE, Associate Professor of English.** BA, University of Texas at Austin; MA, Harvard University; PhD, University of Washington.
- BAKER, TONY, Associate Professor of Music.** BM, University of Central Arkansas; MM, University of Minnesota.
- BANE, ROBERT KING, Associate Professor of Teacher Education and Administration and Director of the Texas Success Initiative Program.** BS, MEd, University of North Texas; EdD, University of Florida.
- BANERJEE, RAJARSHI, Associate Professor of Materials Science and Engineering.** BTech, Indian Institute of Technology; MS, PhD, Ohio State University.
- BANOWETZ, JOSEPH, Professor of Music.** Artist Diploma, Vienna State Academy of Music and Dramatic Arts; BM, Southern Methodist University; MM, University of Missouri at Kansas City; study with Carl Friedberg and Gyorgy Sandor.
- BARNHART, JOE EDWARD, Professor of Philosophy and Religion Studies.** BA, Carson-Newman College; MDiv, Southern Baptist Theological Seminary; PhD, Boston University.
- BARNIR, ANAT, Associate Professor of Management.** BA, MA, Tel-Aviv University; PhD, Syracuse University.
- BARRIO, CASEY, Assistant Professor of Counseling, Development and Higher Education.** BA, St. Norbert College; MS, PhD, University of North Carolina at Greensboro.
- BARTON, THOMAS R., Associate Professor of Rehabilitation, Social Work and Addictions.** BA, MA, Indiana University of Pennsylvania; MSSW, PhD, University of Wisconsin at Madison.
- BATOR, ELIZABETH M., Associate Professor of Mathematics.** BA, MA, Montclair State College; PhD, Pennsylvania State University.
- BATTISTA, JAMES S.C., Assistant Professor of Political Science.** BA, University of Virginia; MA, PhD, Duke University.
- BAVON, AL, Associate Professor of Public Administration.** BA, University of Ghana; MSP, PhD, Florida State University.
- BAXTER, DENISE, Assistant Professor of Visual Arts.** BA, MA, Vassar College; PhD, University of California.
- BECKER, JACK D., Associate Professor of Information Technology and Decision Sciences.** AB, MBA, PhD, Washington University.
- BEITINGER, TOM LEE, Professor of Biological Sciences.** BS, Hamline University; MS, University of Rhode Island; PhD, University of Wisconsin.
- BENAVIDES, ABRAHAM, Assistant Professor of Public Administration.** BA, George Washington University; MPA, Brigham Young University; PhD, Cleveland State University.
- BENET, DIANA T., Associate Professor of English.** BA, MA, Wichita State University; PhD, New York University.
- BENJAMIN, ROBERT C., Associate Professor of Biological Sciences.** BA, Johns Hopkins University; PhD, Harvard University.
- BENNETT, JEFFREY A., Assistant Professor of Communication Studies.** BA, Wayne State University; MA, Northern Illinois University; PhD, Indiana University.
- BENSHOFF, HARRY M., Assistant Professor of Radio, Television and Film.** BA, Franklin and Marshall College; MA, PhD, University of Southern California at Los Angeles.
- BERG, ROBERT COLEMAN, Professor of Counseling, Development and Higher Education.** BS, MEd, Wisconsin State University; EdD, Northern Illinois University.
- BERNICK, ETHAN MICHAEL, Assistant Professor of Public Administration.** BA, North Carolina State University; MS, PhD, Florida State University.
- BETELU, SANTIAGO, Assistant Professor of Mathematics.** MS, PhD, Universidad Nacional del Centro de la Provincia de Buenos Aires Argentina.
- BEYERLEIN, MICHAEL, Professor of Psychology.** BS, University of Oregon; MEd, PhD, Colorado State University.
- BLAND, ROBERT L., Professor and Chair of the Department of Public Administration.** BS, Pepperdine University; MPA, MBA, University of Tennessee; PhD, University of Pittsburgh.
- BLANKSON, CHARLES, Assistant Professor of Marketing and Logistics.** MS, Staffordshire Polytechnic; PhD, Kingston University.
- BLOW, DAVID, Associate Professor of Visual Arts.** BFA, Michigan State University; MFA, Syracuse University.
- BODENHAMER-DAVIS, EUGENIA MAY, Associate Professor of Rehabilitation, Social Work and Addictions.** BA, Southern Methodist University; MEd, Texas Christian University; PhD, University of North Texas.
- BOND, BRUCE, Professor of English.** BA, Pomona College; MA Claremont Graduate School; MA, PhD, University of Denver.
- BOOKS, JOHN WILLIAM, Associate Professor of Political Science.** BA, Wisconsin State University; MA, University of Wisconsin; PhD, Michigan State University.
- BOOTH, JOHN A., Regents Professor of Political Science.** BA, Rice University; MA, PhD, University of Texas at Austin.
- BORDEN, WESTON, Professor of Chemistry and Welch Chair.** BA, MA, PhD Harvard University.
- BORODIN, IGOR, Associate Professor of Music.** BM, MM, PhD, Leningrad Conservatory, Leningrad, Russia.
- BOURBON, MATTHEW, Assistant Professor of Visual Arts.** BFA, University of California, Davis; MFA, School of Visual Arts, New York.

- BOWMAN, BRIAN, Professor of Music.** BM, MM, University of Michigan; DMA, The Catholic University of America.
- BOYD, LORENZO, Assistant Professor of Criminal Justice.** MA, University of Massachusetts at Boston; PhD, Northeastern University.
- BRADETICH, JEFFREY DAVID, Professor of Music.** BM, MM, Northwestern University.
- BRAND, NEAL, Professor and Chair of the Department of Mathematics.** BS, Purdue University; MS, PhD, Stanford University.
- BRANDON, B. LYNN, Associate Professor of Merchandising and Hospitality Management.** BS, Louisiana Tech University; MS, University of Alabama; PhD, Virginia Polytechnic Institute.
- BRASWELL, MICHAEL K., Associate Professor of Finance, Insurance, Real Estate and Law.** BA, Austin College; JD, University of Texas at Austin.
- BRATERMAN, PAUL SYDNEY, Regents Professor of Chemistry.** BA, MA, PhD, DSc, Oxford University.
- BRATTON, SUE, Associate Professor of Counseling, Development and Higher Education.** BS, MEd, PhD, University of North Texas.
- BRAZILE, ROBERT P., Associate Professor of Computer Science and Engineering.** BA, MS, University of North Texas; PhD, University of Texas at Dallas.
- BROSTOW, WITOLD, Regents Professor of Materials Science and Engineering.** MS, Doctor of Mathematico-Physical Sciences, University of Warsaw; Doctor of Science in Chemistry, Polish Academy of Sciences.
- BROYLES, SHERI, Associate Professor of Journalism.** BM, MA, University of Missouri at Columbia; MA, PhD, Southern Methodist University.
- BROZOVIC, DOUGLAS, Associate Professor of Mathematics.** BS, MS, PhD, Ohio State University.
- BRUSILOW, ANSHEL, Regents Professor of Music.** Professional Certificate, Philadelphia Musical Academy; Honorary Doctorate, Capital University.
- BULLOCK, LYNDAL M., Regents Professor of Technology and Cognition.** BS, Southwestern College; BA, Oklahoma City University; MRE, Southwestern Seminary; MEd, University of Oklahoma; EdD, University of Kansas.
- BURGGREN, WARREN, Professor of Biological Sciences and Dean of the College of Arts and Sciences.** BSc, University of Calgary; PhD, University of East Anglia.
- BUSBY, ROY KIDDER, Regents Professor of Journalism.** BA, MBA, University of North Texas; PhD, University of Oklahoma.
- BUSH, BARBARA, Assistant Professor of Counseling, Development and Higher Education.** BA, Rockford College; MS, Indiana University; PhD, Claremont Graduate School.
- BUSH, DEANNA D., Associate Professor of Music.** BM, MM, PhD, Eastman School of Music.
- BUSHKOVA, JULIA, Associate Professor of Music.** BM, Moscow Conservatory; MM, Tchaikovsky State Conservatory, Moscow.
- BUSTINZA, ISHMAEL, Assistant Professor of Foreign Languages and Literatures.** BA, MA, University of Texas at Austin.
- BUTT, HARLAN W., Regents Professor of Visual Arts.** BFA, Temple University; MFA, Southern Illinois University.
- BYERS, LORI A., Assistant Professor of Communication Studies.** BS, Texas Christian University; MS, University of North Texas; PhD, Ohio University.
- BYRD, JIMMY, Assistant Professor of Teacher Education and Administration.** BS, MEd, Tarleton State University; PhD, Texas A&M University.
- CAETI, TORY J., Associate Professor of Criminal Justice.** BA, Colorado State University; MA, Sam Houston State University.
- CALDERÓN, ROBERTO R., Associate Professor of History.** AB, Brown University; MA, PhD, University of California at Los Angeles.
- CALLAHAN, KEVIN J., Associate Professor of Technology and Cognition.** BA, University of West Florida; MEd, Georgia State University; PhD, Utah State University.
- CALLICOTT, J. BAIRD, Professor of Philosophy and Religion Studies.** BA, Rhodes College; MA, PhD, Syracuse University.
- CAMP, WILLIAM, Professor of Teacher Education and Administration.** BS, MS, Texas Tech University; MBA, EdD, Virginia Polytechnic Institute and State University.
- CAMPBELL, RANDOLPH BLUFORD, Regents Professor of History.** BS, MA, PhD, University of Virginia.
- CAMPBELL, VICKI LYNN, Associate Professor of Psychology.** BS, Michigan State University; MEd, PhD, University of Missouri.
- CHANDA, JACQUELINE, Professor of Visual Arts.** BA, University of California, Los Angeles; BA, MA, PhD, Sorbonne University of Paris.
- CHANDLER, CYNTHIA, Professor of Counseling, Development and Higher Education.** BA, MA, EdD, Texas Tech University.
- CHANDLER, YVONNE J., Associate Professor of Library and Information Sciences.** BA, Clark College, Atlanta; MS, Atlanta University; PhD, University of Michigan.
- CHANDRASEKARAN, PERINKOLAM, Regents Professor of Finance, Insurance, Real Estate and Law.** BS, University of Madras, India; MBA, DBA, Texas Tech University.
- CHAPMAN, KENT D., Professor of Biological Sciences.** BA, Lycoming College; PhD, Arizona State University.
- CHEAL, SUSAN, Associate Professor of Visual Arts.** BFA, Texas Tech University; MFA, University of Texas, San Antonio.
- CHELLIAH, SHOBHANA L., Associate Professor of English.** BA, MA, University of Delhi; PhD, University of Texas at Austin.
- CHEN, JIANGPING, Assistant Professor of Library and Information Sciences.** BS, Wahan University; MS, Chinese Academy of Sciences; PhD, Syracuse University.

- CHERRY, WILLIAM ALLEN, Associate Professor of Mathematics.** BAS, Stanford University; MS, PhD, Yale University.
- CHET, GUY, Assistant Professor of History.** BA, Haifa University; MA, MPhil, PhD, Yale University.
- CHNG, CHWEE LYE, Regents Professor of Kinesiology, Health Promotion and Recreation.** BA, DipED, MEd, University of Malaysia; PhD, University of Wisconsin.
- CHO, GENE J., Regents Professor of Music.** BS, Chung-Hsing University; MA, Bob Jones University; MCM, Southern Baptist Theological Seminary; PhD, Northwestern University.
- CHOWDHURY, JHINUK, Associate Professor of Marketing and Logistics.** BME, Jadavpur University; PhD, University of Florida.
- CHYAN, OLIVER M.R., Associate Professor of Chemistry.** BS, National Chung-Hsing University; MS, National Taiwan University; MS, University of Texas at Arlington; PhD, Massachusetts Institute of Technology.
- CLARDY, MARY K., Professor of Music.** BM, MM, The Catholic University of America; DMA, University of North Texas.
- CLARK, ALEXANDER DOUGLASS, Associate Professor of Mathematics.** BA, Harvard University; PhD, Auburn University.
- CLARK, RUSSELL D., III, Professor of Psychology.** BA, Tarkio College; MS, PhD, University of Kansas.
- CLAY, JOAN MARIE, Professor of Merchandising and Hospitality Management.** BSEd, Northern Illinois University; MS, Indiana State University; PhD, University of North Texas.
- CLAY, RAYMOND J., JR., Professor of Accounting and Institute of Internal Audit Professorship.** BS, MS, Northern Illinois University; DBA, University of Kentucky.
- CLEVELAND, ANA D., Professor of Library and Information Sciences.** BS, University of Texas at Austin; MS, PhD, Case Western Reserve University.
- CLOUGH, EMILY, Assistant Professor of Political Science.** BA, New College of Florida; PhD, University of Minnesota.
- CLOWER, TERRY, Assistant Professor of Applied Economics and Associate Director of the University Center for Economic Development and Research.** BS, Texas A&M University; MS, PhD, University of North Texas.
- COBB, STEVEN LEE, Associate Professor and Chair of the Department of Economics and Director of the Center for Economic Education.** BA, Southwestern University; PhD, University of North Carolina at Chapel Hill.
- COE, TEDDY L., COPAS/PDI Professor of Accounting and Director of the Institute of Petroleum Accounting.** BBA, MS, Baylor University; PhD, Texas A&M University.
- COKELY, JEFFREY A., Associate Professor and Chair of the Department of Speech and Hearing Sciences.** BS, Syracuse University; MA, PhD, Northwestern University.
- COLE, C. STEVEN, Professor of Finance, Insurance, Real Estate and Law.** BS, MBA, Southwest Missouri State University; PhD, University of Arkansas.
- COLLINS, JOHN R., JR., Associate Professor of Kinesiology, Health Promotion and Recreation.** BS, MS, University of Tennessee; PhD, University of Illinois.
- COMBES, BERTINA H., Associate Professor of Technology and Cognition.** BA, Oral Roberts University; MS, Southern University; PhD, University of Texas at Austin.
- CONLEY, CHARLES, Associate Professor of Mathematics.** BS, Massachusetts Institute of Technology; MS, Cal Tech; PhD, University of California at Los Angeles.
- CONNORS, PRISCILLA, Associate Professor of Merchandising and Hospitality Management.** BS, Moravian College; MBA, Binghamton University; PhD, Texas Woman's University.
- CONOVER, JAMES A., Professor and Interim Chair of the Department of Finance, Insurance, Real Estate and Law.** BS, Cornell University; MS, PhD, Texas A&M University.
- CONOVER, TERESA, Professor of Accounting.** BS, University of California at Davis; MBA, Oregon State University; PhD, Texas A&M University.
- CONTRERAS, GLORIA, Professor of Teacher Education and Administration.** BS, MEd, University of Texas at El Paso; EdD, University of Georgia.
- COOKE, LYNNE M., Assistant Professor of English.** BA, MA, San Diego State University; PhD, Rensselaer Polytechnic Institute.
- COOKE, STEPHEN A., Assistant Professor of Chemistry.** BS, PhD, University of Exeter.
- COOPER, JOHN MICHAEL, Associate Professor of Music.** BM, MM, Florida State University; PhD, Duke University.
- COOPER, KATHLEEN BELL, Associate Professor of Economics and Dean of the College of Business Administration.** BA, MA, University of Texas at Arlington; PhD, University of Colorado at Boulder.
- CORPORON, EUGENE, Regents Professor of Music.** BA, California State University; MA, Claremont Graduate School.
- COTTLE, NATHAN R., Assistant Professor of Counseling, Development and Higher Education.** BS, MS, Brigham Young University; PhD, University of Texas at Austin.
- COX, BARBARA C., Associate Professor of Dance and Theatre.** BA, State University of New York at Albany; MFA, Carnegie Mellon University.
- COX, GLORIA C., Associate Professor of Political Science and Dean of the Honors College.** BA, MA, PhD, University of South Carolina.
- COX, JOHN H., Assistant Professor of Technology and Cognition.** MS, East Carolina University; EdD, North Carolina State University.
- COY, DORIS R., Associate Professor of Counseling, Development and Higher Education.** BS, University of Rio Grande, Ohio; MA, PhD, Ohio State University.
- CRAIG, STEVE, Professor of Radio, Television and Film.** BS, Florida State University; MA, University of Florida; PhD, Florida State University.

- CRAWFORD, JOHN C., Professor of Marketing and Logistics.** BComm, University of NSW (Australia); MBA, Macquarie University (Australia); PhD, Texas A&M University.
- CREADY, CYNTHIA, Assistant Professor of Sociology.** MS, PhD, Texas A&M University.
- CRITELLI, JOSEPH WILLIAM, Professor of Psychology.** BS, Purdue University; MA, PhD, University of Illinois.
- CROCKER, BETTY C., Associate Professor of Teacher Education and Administration.** BS, University of Texas at Austin; EdD, University of Georgia.
- CROFT, RICHARD, Professor of Music.** BS, State University of New York.
- CRUTSINGER, CHRISTY, Associate Professor of Merchandising and Hospitality Management.** BS, MS, University of North Texas; PhD, Texas Woman's University.
- CRUZ, ANA MARIA, Assistant Professor of Public Administration.** BS, Universidad del Valle; MS, PhD, Tulane University.
- CUKOR-AVILA, PATRICIA, Associate Professor of English.** BA, MA, Texas A&M University; PhD, University of Michigan.
- CUNDARI, THOMAS, Professor of Chemistry.** BS, Pace University; PhD, University of Florida.
- CURTIS, MARY, Associate Professor of Accounting.** BSBA, MS, University of Arkansas; PhD, University of Kentucky.
- CUSHMAN, SHELLEY, Professor of Dance and Theatre.** BA, University of California at Fresno; MA, University of California at Los Angeles.
- DANTU, RAM, Assistant Professor of Computer Science and Engineering.** BEng, Madras Institute of Technology; MEng, Madras University; PhD, Concordia University.
- DASH, NICOLE, Assistant Professor of Sociology.** BS, MA, PhD, Florida State University.
- DAVENPORT, BEVERLY, Assistant Professor of Anthropology.** BA, Harvard University; MSPH, University of North Carolina at Chapel Hill; PhD, University of California at San Francisco.
- DAVIS, DONALD JACK, Professor of Visual Arts.** BA, MA, Baylor University; PhD, University of Minnesota.
- DAVIS, MARK A., Professor of Management.** BS, University of Alabama; MA, Middle Tennessee State University; PhD, Virginia Polytechnic.
- DAVIS, RICHARD MILLER, Professor of Visual Arts.** BS, Lamar University; MA, University of Wyoming.
- DAY, KAAREN CHANDLER, Associate Professor of Teacher Education and Administration.** BS, MA, Ball State University; EdD, Texas Woman's University.
- DEANE, CHRISTOPHER, Assistant Professor of Music.** BM, North Carolina School of the Arts; MM, University of Cincinnati Conservatory of Music.
- DeCARVALHO, ROY JOSE, Associate Professor of History.** BA, Hebrew University of Jerusalem; MA, PhD, University of Wisconsin.
- DEERING, WILLIAM DOUGLESS, Professor of Physics.** BA, Texas Christian University; MS, PhD, New Mexico State University.
- DENG, HAI, Assistant Professor of Electrical Engineering.** BS, Anhui University; MS, Beijing Institute of Technology; PhD, University of Texas at Austin.
- DICKE, LISA, Assistant Professor of Public Administration.** BA, MPA, Drake University; PhD, University of Utah.
- DICKSON, KENNETH L., Professor of Biological Sciences.** BS, MS, University of North Texas; PhD, Virginia Polytechnic Institute and State University.
- DICKSTEIN, REBECCA, Associate Professor of Biological Sciences.** BS, Pennsylvania State University; PhD, Johns Hopkins University.
- Di FIORE, LINDA SPICHER, Professor of Music.** BA, West Virginia Wesleyan College; MA, University of Iowa; MM, Wichita State University; DMA, University of Minnesota.
- DITSLEAR, COREY A., Assistant Professor of Political Science.** BA, JD, MA, PhD, Ohio State University.
- DITZENBERGER, ROGER, Professor of Technology and Cognition.** BA, MA, University of Northern Iowa; PhD, Iowa State University.
- DIXON, PAUL NICHOLS, Professor of Counseling, Development and Higher Education.** BA, PhD, University of Texas at Austin.
- DOHERTY, DORNITH, Associate Professor of Visual Arts.** BA, Rice University; MFA, Yale University.
- DONAHUE-WALLACE, KELLY, Assistant Professor of Visual Arts.** BA, University of California; MA, PhD, University of New Mexico.
- DONG, PINLIANG, Assistant Professor of Geography.** BS, Beijing University; MS, Chinese Academy of Sciences; PhD, University of New Brunswick.
- DOPSON, LEA R., Associate Professor of Merchandising and Hospitality Management.** BS, MBA, Texas Tech University; EdD, University of Houston.
- DOSTER, JOSEPH A., Professor of Psychology.** BA, MA, PhD, Emory University.
- DOUGLASS, MATTHEW, Associate Professor of Mathematics.** BA, MS, University of Minnesota; PhD, University of Oregon.
- DRIVER, SIMON, Assistant Professor of Kinesiology, Health Promotion and Recreation.** BS, University of Liverpool; MS, Southern Illinois University-Edwardsville; PhD, University of Virginia.
- DROUGHT, MICHAEL, Professor and Associate Dean of the School of Visual Arts.** BS, MFA, University of Wisconsin.
- D'SOUZA, DERRICK E., Professor of Management and Associate Dean of the College of Business Administration.** BTEch, MBA, Indian Institute of Technology; PhD, Georgia State University.
- D'SOUZA, NANDIKA, Associate Professor of Materials Science and Engineering.** BE, University of Poona; MS, Auburn University; PhD, Texas A&M University.

- DUBAN, JAMES, Professor of English.** BA, University of Massachusetts; MA, PhD, Cornell University.
- DUBBERLY, STEPHEN, Associate Professor of Music.** MM, DMA, Yale University.
- DUBOIS, SUSAN L., Associate Professor of Music.** BM, MM, University of Southern California; DMA, Julliard.
- DUGGAN, JEROME LEWIS, Regents Professor of Physics.** BA, MA, University of North Texas; PhD, Louisiana State University.
- DUPONT, JILL, Assistant Professor of History.** BA, University of Texas at Austin; PhD, University of Chicago.
- DWORAK, PAUL E., Professor of Music and Director of Compliance.** BFA, MFA, PhD, Carnegie Mellon University.
- DZIALOWSKI, EDWARD M., Assistant Professor of Biological Sciences.** BA, Kalamazoo College; MS, PhD, Drexel University.
- EATON, HENRY LAMAR, Associate Professor of History.** BA, MA, PhD, University of Illinois.
- EL BOUANANI, MOHAMED, Assistant Professor of Materials Science and Engineering.** PhD, Université Claude Bernard.
- ELLEVEN, RUSSELL K., Assistant Professor of Technology and Cognition.** BA, Texas Christian University; MTS, Vanderbilt University; MS, EdD University of North Texas.
- ELLIS, JANET K., Professor of Behavior Analysis.** BFA, University of Texas at Austin; MA, Southern Methodist University; MA, PhD, University of North Texas.
- EMMANUEL, DONNA T., Assistant Professor of Music.** BA, University of West Florida; MEd, University of Michigan; PhD, Michigan State University.
- ENGELS, DENNIS W., Regents Professor of Counseling, Development and Higher Education.** BA, St. Norbert College; MA, PhD, University of Wisconsin at Madison.
- ENNIS-COLE, DEMETRIA, Associate Professor of Technology and Cognition.** BS, MS, Southern University at Baton Rouge; PhD, Kansas State University.
- ENTERLINE, ANDREW J., Associate Professor of Political Science.** BA, Wittenberg University; MA, Loyola University of Chicago; PhD, Binghamton University.
- ERDLE, ROBERT LEIGH, Regents Professor of Visual Arts.** AA, Reedley College; BA, California State University at Fresno; MFA, Bowling Green State University.
- ESCHBACH, JESSE E., Professor of Music.** BM, MM, Indiana University; DMA, University of Michigan.
- ESHBAUGH-SOHA, MATTHEW J., Assistant Professor of Political Science.** BA, Miami University; MA, University of Missouri–Columbia; PhD, Texas A&M University.
- ESPRÍVALO HARRELL, PAMELA, Assistant Professor of Teacher Education and Administration.** BS, University of Arkansas; MA, Sam Houston State University; EdD, University of Arkansas.
- ESTERCHILD, ELIZABETH McTAGGART, Regents Professor of Sociology.** BS, Kansas State Teachers College; MA, PhD, University of Kansas.
- EUSTIS, LYNN E., Associate Professor of Music.** BM, Bucknell University; MM, The Curtis Institute of Music; DM, Florida State University.
- EVANGELOPOULOS, NICHOLAS, Assistant Professor of Information Technology and Decision Sciences.** Dipl.Eng, Aristotle University of Thessaloniki; MS, University of Kansas; PhD, Washington State University.
- EVE, SUSAN BROWN, Professor of Sociology and Applied Gerontology and Associate Dean of the Honors College.** BA, MA, PhD, University of North Carolina at Chapel Hill.
- EVENSON, THOMAS L., Associate Professor of Rehabilitation, Social Work and Addictions and Faculty Executive Assistant to the President.** PhB, University of North Dakota; MSW, Our Lady of the Lake University; MS, North Dakota State University; PhD, University of Arizona.
- EVERBACH, TRACY, Assistant Professor of Journalism.** BS, Boston University; MA, University of Texas at Austin; PhD, University of Maryland.
- FALSETTA, VINCENT MARIO, Professor of Visual Arts.** BA, Temple University; MFA, Tyler School of Art, Temple University.
- FARRIS, M. THEODORE, II, Associate Professor of Marketing and Logistics.** BS, Arizona State University; MA, PhD, Ohio State University.
- FERRING, C. REID, Professor of Geography.** BA, MA, PhD, Southern Methodist University; PhD, University of Texas at Dallas.
- FIGA, ELIZABETH GREMORE, Assistant Professor of Library and Information Sciences.** BS, DePauw University; MS, Illinois State University; MS, University of Illinois at Urbana-Champaign.
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- SWAN, JAMES, Professor of Applied Gerontology.** BA, MA, Wichita State University; PhD, Northwestern University.
- SWARTZ, STEPHEN, Assistant Professor of Marketing and Logistics.** BA, Embry Riddle Aeronautical University; MS, Air Force Institute of Technology; MA, Webster University; PhD, Michigan State University.
- SWEANY, PHILIP, Associate Professor of Computer Science and Engineering.** BS, Washington State University; MS, PhD, Colorado State University.
- SWIGGER, KATHLEEN M., Professor of Computer Science and Engineering and Associate Dean of the College of Engineering.** BA, MAT, PhD, University of Iowa.
- TAIT, JOHN, Assistant Professor of English.** BA, MA, University of Toronto; MFA, University of New Orleans; PhD, University of Missouri at Columbia.
- TAM, DAVID C., Associate Professor of Biological Sciences.** BS, PhD, University of Minnesota.
- TANNER, HAROLD M., Associate Professor of History.** BA, New England College; MA, University of London; PhD, Columbia University.
- TANNER, JAMES T.F., Professor of English.** BA, Texas Wesleyan College; MA, PhD, Texas Tech University.
- TARAU, PAUL, Associate Professor of Computer Science and Engineering.** BSc, University of Bucharest; MSc, Université Laval; PhD, Université de Montreal.
- TAS, RICHARD F., Professor of Merchandising and Hospitality Management.** BS, Oklahoma State University; MPS, Cornell University; PhD, Oklahoma State University.
- TATE, STEPHEN R., Associate Professor of Computer Science and Engineering.** BE, Vanderbilt University; PhD, Duke University.
- TAYLOR, DANIEL, Assistant Professor of Psychology.** BA, Louisiana State University; MS, University of Louisiana; PhD, University of Memphis.
- TAYLOR, DON, Assistant Professor of Music.** BM, University of Texas at San Antonio; MM, Indiana University; DMA, University of Cincinnati; PhD, University of Texas at Austin.
- TAYLOR, ELMER, Regents Professor of Visual Arts.** BFA, MFA, Arizona State University.
- TAYLOR, KELLY, Associate Professor of Communication Studies.** BFA, University of North Carolina at Greensboro; MA, University of North Carolina; PhD, Louisiana State University.
- TAYLOR, LEWIS A., III, Regents Professor of Management.** AB, Drury College; MBA, Pepperdine University; DBA, Indiana University.
- TAYLOR, ROBERT, Professor and Chair of the Department of Criminal Justice.** BS, Portland State University; MS, Michigan State University; PhD, Portland State University.

- TEETER, CHARLES RUSKIN, Professor of Teacher Education and Administration.** BSE, MEd, EdD, University of Arkansas.
- TERRELL, FRANCIS, Professor of Psychology.** BS, Wilmington College; MS, PhD, University of Pittsburgh.
- TERRELL, SANDRA L., Professor of Speech and Hearing Sciences and Dean of the Toulouse School of Graduate Studies.** BA, MA, PhD, University of Pittsburgh.
- THERIOT, LEROY JAMES, Professor of Chemistry.** BS, University of Southwestern Louisiana; PhD, Tulane University.
- THIBODEAUX, MARY SHEPHERD, Professor of Management and Associate Dean of the College of Business Administration.** BS, Grambling State University; MBEd, Eastern New Mexico University; PhD, University of North Texas.
- THOMAS, CECILIA L., Assistant Professor of Rehabilitation, Social Work and Addictions.** BSW, MS, Pittsburg State University; MSW, Our Lady of the Lake University; PhD, University of Texas at Arlington.
- THOMAS, RUTHANNE D., Professor and Chair of the Department of Chemistry.** BS, Denison University; PhD, Wayne State University.
- THOMPSON, KENNETH NEIL, Professor of Marketing and Logistics.** BA, University of Colorado; MBA, Southern Illinois University; PhD, University of Colorado.
- THORNTON, JOHN HUGH, Regents Professor of Finance, Insurance, Real Estate and Law.** BA, University of the South; MBA, PhD, Georgia State University.
- TIESLAU, MARGIE A., Associate Professor of Economics.** BS, MA, University of Delaware; PhD, Michigan State University.
- TOBOLOWSKY, PEGGY, Professor of Criminal Justice.** BA, Washington University; JD, George Washington University.
- TODD, JOHN RICHARD, Associate Professor of Political Science and Interim Associate Vice President for Institutional Research and Accreditation.** BA, University of Southwestern Louisiana; MA, PhD, University of Florida.
- TOLEDO, J. RAFAEL, Associate Professor of Psychology.** BA, Colegio Cristobal Colon; MD, Universidad Autonoma de Guadalajara.
- *TOTTEN, HERMAN LAVON, Regents Professor and Dean of the School of Library and Information Sciences.** BA, Wiley College; MLS, PhD, University of Oklahoma.
- TRIPATHY, NIRANJAN, Professor of Finance, Insurance, Real Estate and Law.** BA, Utkal University; MBA, University of New Orleans; PhD, Texas Tech University.
- TRULSON, CHAD R., Assistant Professor of Criminal Justice.** BA, University of Northern Iowa; MA, PhD, Sam Houston State University.
- TUNKS, JEANNE, Assistant Professor of Teacher Education and Administration.** BMus, University of Southwestern Louisiana; MMus, Loyola University in New Orleans; PhD, University of North Texas.
- TURNER, ELIZABETH HAYES, Associate Professor of History.** BA, University of the Redlands; MA, Texas A&M University–Commerce; PhD, Rice University.
- TURNER, KEITH W., Associate Professor of Applied Gerontology.** BS, Xavier University; MA, PhD, University of Cincinnati.
- TURNER, PHILIP M., Professor of Library and Information Sciences and Associate Vice Provost for Learning Enhancement.** BS, Boston State College; MS, University of Wisconsin, Lacrosse; MSLS, EdD, Texas A&M University–Commerce.
- TYLER-WOOD, TANDRA, Associate Professor of Technology and Cognition.** BS, North Carolina State; MEd, PhD, University of North Carolina.
- UPCHURCH, ROBERT K., Assistant Professor of English.** BA, College of William and Mary; MA, Wake Forest University; PhD, City University of New York.
- URBANSKI, MARIUSZ, Professor of Mathematics.** BSc, MSc, Warsaw University; PhD, Nicholas Copernicus University.
- VAIDYA, MANISH, Assistant Professor of Behavior Analysis.** BAAS, MS, University of North Texas; PhD, University of Florida.
- VAIDYANATHAN, VIJAY V., Assistant Professor of Engineering Technology.** BS (Physics), BS (Electronics Instrumentation), University of Bombay; MS, PhD, Texas A&M University.
- VANHOUTTE, JACQUELINE, Associate Professor of English.** BA, Carleton College; MA, PhD, University of Washington.
- VAN TASSELL, FRANCES, Associate Professor of Teacher Education and Administration.** BS, William Carey College; MEd, East Central University; EdD, Texas A&M University–Commerce.
- VARANASI, MURALI R., Professor and Chair of the Department of Electrical Engineering.** MS, PhD, University of Maryland.
- VEAZEY, CHARLES ORLANDO, Regents Professor of Music.** BME, MM, University of Texas at Austin; DMA, University of Michigan.
- VEDDER, RICHARD G., Professor of Information Technology and Decision Sciences.** BA, University of California at San Diego; MA, MS, PhD, University of Arizona.
- VELARDE, LUIS, Assistant Professor of English.** Universidad Mayor de San Andreas; MA, PhD, University of Oregon.
- VENABLES, BARNEY, Associate Professor of Biological Sciences.** BA, MS, Baylor University; PhD, University of North Texas.
- VIARDO, VLADIMIR, Professor of Music and Artist in Residence.** Gnesin College of Moscow; Moscow State Tchaikovsky Conservatory.
- VOSVICK, MARK, Assistant Professor of Psychology.** BA, Yale University; MBA, Rutgers University; MEd, Harvard University; PhD, Stanford University.
- WALKER, J. MICHELLE, Associate Professor of Technology and Cognition.** BS, Texas Woman's University; MEd, PhD, University of North Texas.

- WALKER, JOSEPH, Assistant Professor of Kinesiology, Health Promotion and Recreation.** BFA, MA, University of Mississippi; PhD, Clemson University.
- WALKER, MYRA, Professor of Visual Arts.** BFA, Louisiana State University; MFA, Southern Illinois University.
- WALLER, WILLIAM T., Professor of Biological Sciences.** BS, MS, Pittsburg State University; PhD, Virginia Polytechnic Institute and State University.
- WANG, SHUPING, Assistant Professor of Engineering Technology.** BS, Peking University; MS, Georgia State University; PhD, University of Alabama.
- WARNER, ROGER W., Associate Professor of Music.** BS, Minot State Teachers College; MS, University of Illinois; EdD, Washington University.
- WASSON, CHRISTINA, Assistant Professor of Anthropology.** BA, University of California at Berkeley; MPhil, PhD, Yale University.
- WATKINS, C. EDWARD, JR., Professor of Psychology.** BA, Carson-Newman College; MA, Western Carolina University; PhD, University of Tennessee.
- WATSON, WARREN E., Professor of Management.** BA, Texas Tech University; MS, Texas A&M University–Commerce; MS, University of North Texas; PhD, University of Oklahoma at Norman.
- WATSON, WENDY, Assistant Professor of Political Science.** BA, University of Michigan; JD, MPP, College of William and Mary; PhD, Ohio State University.
- WAWRO, GEOFFREY, Professor of History.** BA, Brown University; MA, PhD, Yale University.
- WAY, BOB ALLEN, Instructor in Kinesiology, Health Promotion and Recreation.** BS, MEd, University of North Texas.
- WAY, JENNIFER, Associate Professor of Visual Arts.** BA, Moore College of Art; MA, Vanderbilt University; PhD, University of Texas at Austin.
- WEATHERS, DUNCAN LEE, Associate Professor of Physics.** BS, University of Missouri at Columbia; PhD, California Institute of Technology.
- WEILLER, KAREN H., Associate Professor of Kinesiology, Health Promotion and Recreation.** BS, University of Texas at Austin; MA, PhD, Texas Woman's University.
- WEINSTEIN, BERNARD, Professor of Applied Economics, Director of the Institute of Applied Economics and Director of the University Center for Economic Development and Research.** AB, Dartmouth College; MA, PhD, Columbia University.
- WELLER, KIRK, Associate Professor of Mathematics.** BA, Hope College; MS, PhD, University of Notre Dame.
- WELLS, BRENDA, Associate Professor of Finance, Insurance, Real Estate and Law.** BBA, PhD, University of Georgia.
- WELLS, RICHARD H., Professor of Journalism.** BSEd, MJ, University of North Texas; PhD, Texas A&M University.
- WHEELER, MAURICE B., Associate Professor of Library and Information Sciences.** BM, Shrader College; MM, MLS, University of Michigan; PhD, University of Pittsburgh.
- WHITE, RICHARD E., Professor of Management.** BS, MS, University of Wisconsin; PhD, Arizona State University.
- WICKSTROM, CAROL D., Assistant Professor of Teacher Education and Administration.** BA, Illinois State University; MEd, PhD, Texas Woman's University.
- WILHELM, RONALD W., Professor of Teacher Education and Administration.** BA, Southern Methodist University; MEd, University of North Texas; PhD, University of Texas at Austin.
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- WILLIAMS, HARRY F.L., Associate Professor of Geography.** BSc, Plymouth Polytechnic University; MSc, University of British Columbia; PhD, Simon Fraser University.
- WILLIAMS, LAWRENCE, Assistant Professor of Foreign Languages and Literatures.** BA, State University of New York; MA, Arizona State University; PhD, Pennsylvania State University.
- WILLIAMSON, CELIA, Associate Professor of Rehabilitation, Social Work and Addictions; Special Assistant to the Provost and Vice President for Academic Affairs.** BS, Abilene Christian University; MSSW, PhD, University of Texas at Arlington.
- WILLIAMSON, DAVID ALLEN, Associate Professor and Chair of the Department of Sociology.** BBA, Abilene Christian University; MA, PhD, Vanderbilt University.
- WILLIAMSON, JON W., Professor of Kinesiology, Health Promotion and Recreation and Associate Dean of the College of Education.** BS, University of Texas at Austin; MS, University of North Texas; PhD, University of North Texas Health Science Center.
- WILNER, NEIL, Associate Professor of Accounting.** BA, Queens College; MA, PhD, Ohio State University.
- WILSON, ANGELA, Associate Professor of Chemistry.** BS, Eastern Washington University; PhD, University of Minnesota.
- WILSON-McKAY, SARA, Assistant Professor of Visual Arts.** BA, Texas Christian University; PhD, Pennsylvania State University.
- WILSON, TIMOTHY R., Professor and Chair of the Department of Dance and Theatre.** BS, MS, Florida State University; EdD, University of Houston.
- WINDSOR, JOHN C., Professor of Information Technology and Decision Sciences.** BBA, MDS, PhD, Georgia State University.
- WINSOR, PHILIP G., Professor of Music.** BM, Illinois Wesleyan University; MA, San Francisco State University.
- WIRCENSKI, JERRY L., Regents Professor of Technology and Cognition.** BS, MA, PhD, The Ohio State University.
- WIRCENSKI, MICHELE, Professor of Technology and Cognition.** BS, State University College of Buffalo; MS, EdD, State University of New York.
- WODNICKI, ADAM J., Professor of Music.** Teacher Certificate, State Higher School of Music; MA, State Academy of Music, Krakow, Poland; DIPL, Indiana University School of Music.

YAFFE, MARTIN DAVID, Professor of Philosophy and Religion Studies. BA, University of Toronto; PhD, Claremont Graduate School.

YANCEY, GEORGE, Associate Professor of Sociology. BS, West Texas State University; MA, PhD, University of Texas at Austin.

YANG, WUQIANG, Professor of Electrical Engineering. BS, MS, PhD, Tsinghua University.

YEATTS, DALE E., Professor of Sociology. BA, MA, Old Dominion University; MA, College of William and Mary; PhD, University of Virginia.

YODER, KEVIN, Assistant Professor of Sociology. BA, Saint Olaf College; MS, PhD, Iowa State University.

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YU, CHENG, Assistant Professor of Engineering Technology. BS, Tsinghua University-Beijing; MS, PhD, Johns Hopkins University.

ZAFIROVSKI, MILAN Z., Associate Professor of Sociology. BA, MA, PhD, University of Cyril and Methodius; PhD, Florida International University.

ZAMBONI, LUCA, Professor of Mathematics. BA, University of California at Los Angeles; MS, PhD, Brown University.

ZAVOINA, SUSAN C., Associate Professor and Chair of the Department of Journalism. BS, MFA, University of North Texas.

ZIMMERMAN, EARL GRAVES, Professor of Biological Sciences. BS, Indiana State University; MS, PhD, University of Illinois.

Graduate faculty of the Graduate School of Biomedical Sciences and the School of Public Health at the University of North Texas Health Science Center at Fort Worth (UNTHSC-FW) also are members of the graduate faculty of the University of North Texas and thus can serve as mentors or committee members of UNT graduate students appropriate to their graduate appointment. See the UNTHSC-FW Graduate Catalog for UNTHSC-FW graduate faculty listings.

* Currently on administrative appointment; designation of Regents Professor is suspended for the duration of the administrative appointment.

Librarians

GROSE, B. DONALD, Dean of Libraries. BA, Southwest Missouri State University; MA, MSLS, University of Kentucky; PhD, University of Missouri at Columbia.

ALEMNEH, DANIEL, Visiting Librarian II. BA, Addis Ababa University; MA, University of Sheffield.

ANTONELLI, MONIKA, Librarian IV. BA, Indiana University; MS, MS (Library Science), University of North Texas.

ARNOLD, DONNA, Librarian III. BM, University of Wisconsin; MM, Southern Illinois University; MLS, Texas Woman's University; PhD, University of North Texas.

BARHAM-JOHNSON, REBECCA, Librarian II. BFA, MFA, MS (Information Science), University of North Texas.

BATMAN, CYNTHIA ANN, Visiting Librarian II. BA, Texas Christian University; MS (Library Science), University of North Texas.

BELDEN, DREANNA, Visiting Librarian II. BS, University of the State of New York; MS (Information Science), University of North Texas.

BOYETT, KRISTIN, Librarian I. BA, Trinity University; MS (Library Science), University of North Texas.

BRADLEY, LOU ANN, Assistant Dean of University Libraries and Librarian III. BA, MLS, Texas Woman's University.

BYERLY, GAYLA, Librarian II. BA, MS (Library Science), MA, University of North Texas.

CAIN, DANIELLE, Librarian II. BA, East Central University; MLIS, University of Oklahoma.

CLEVELAND, SUSANNAH, Librarian II. BM, Baylor University; MS (Library Science), MM, University of North Texas.

DOWNEY, ANNIE, Visiting Librarian I. BA, MS (Library Science), University of North Texas.

DURIO, MARY L., Librarian II. BA, University of Texas at Arlington; MS (Library Science), University of North Texas.

ENOCH, TODD C., Visiting Librarian I. B.A., Oklahoma State University; MLS, University of North Texas.

FARKAS, DOINA, Librarian IV. MLS, Florida State University; MA, University of Bucharest.

GLENN, VALERIE D., Librarian II. BA, University of Maryland; MS (Library Science), University of North Carolina.

HARDEN, BETTIE JEAN, Librarian IV. BA, Emory University; MLS, Syracuse University; MA, PhD, Cornell University.

HARTMAN, CATHY N., Assistant Dean of University Libraries and Librarian IV. BA, MS (Library Science), University of North Texas.

HARTSOCK, RALPH, Librarian IV. BA, Weber State College; MLS, University of Arizona.

HENLEY, MARK, Librarian II. BA, Texas A&M University; MS (Library Science), University of North Texas.

JOHNSTON, JUDITH A., Librarian III. BA, MLS, University of Texas at Austin.

JOHNSTON, PAMELA, Librarian II. BS, Texas A&M University–Commerce; MS (Library Science), University of North Texas.

KELLY, MELODY S., Associate Dean of Libraries and Librarian IV. BA, MLS, MA, University of North Texas.

KEMP, LEORA, Librarian III. BA, Texas A&M University–Commerce; MRE, Southern Methodist University; MLS, University of North Texas.

LEVY, JEFFREY, Librarian III. BS, Towson State University; MA, George Washington University; MLS, University of Texas at Austin.

LOAFMAN, KATHRYN, Librarian III. BS, Pennsylvania State University; MSLS, Columbia University.

LUCE, CLARICE, Librarian III. BA, MLS, University of North Texas.

MARTIN, J. MORRIS, Librarian IV. BA, MA, University of North Texas; MS, University of Illinois.

MAY, FRANCES, Librarian III. BA, Case-Western Reserve; MS (Library Science), University of North Texas.

McKNIGHT, MARK, Librarian IV. BA, University of Central Arkansas; MA, PhD, Louisiana State University; MS, University of Illinois.

MONAHAN, JO ANN, Librarian IV. BA, Northwest Missouri State University; MS (Library Science), University of North Texas.

O'TOOLE, ERIN, Librarian II. BA, Smith College; BS, MPh, University of Utah; MLS, Texas Woman's University.

PARKS, SUSAN, Librarian III. BA, Wichita State University; MLS, Emporia State University.

PHILLIPS, MARK, Librarian II. BM, Oklahoma City University; MS (Library Science), University of North Texas.

REESE, PATRICIA, Librarian II. BS, University of Oklahoma; MS (Information Science), University of North Texas.

SASSEN, CATHERINE J., Librarian III. BA, University of Montana; MLS, PhD, University of North Texas.

STINSON-SWITZER, PATRICIA, Librarian IV. BA, MLS, Texas Woman's University.

TARLTON, MARTHA, Librarian IV. BS, Texas Woman's University; MLS, University of North Texas.

THOMSETT-SCOTT, BETH C., Librarian III. BS, University of Guelph; MS, University of Manitoba; MLIS, University of Western Ontario.

TRUAX, ELLEN, Librarian III. BBA, MS, MS (Library Science), University of North Texas.

UEMURA, AYA, Librarian II. AA, BA, Mukogawa Women's University; MS (Library Science), University of North Texas.

WAHL, DIANE, Visiting Librarian III. BA, Baylor University; MA, Emory University; MS (Library Science), University of North Texas.

WALLACE, RANDAL W., Librarian II. BA, University of New Mexico; MS (Library Science), University of North Texas.

WENG, ZHIQIN, Visiting Librarian II. BS, Tianjin Medical University; MS (Information Science), University of North Texas.

WILLER, ANN MARIE, Librarian II. BA, Southern Methodist University; MA, University of Rochester; MS (Library Science), University of North Texas.

WOODS, GAY, Librarian III. BA, MPA, Cornell University; MLS, Emporia State University.

Emeritus Librarians

Cope, Johnnye L., 1966–1988.

Davis, Iris Anne, 1966–1989.

Galloway, Margaret E., 1967–1997.

Hogan, Sarah T., 1965–1992.

Lavender, Kenneth, 1981–2001.

Mitchell, George D., III, 1968–1997.

Webb, David, 1953–1978.

Dates indicate years at UNT.

Emeritus Faculty

Adkins, Cecil, Music (1963–2000).

Alton, Louise, Music (1958–1980).

Amos, William, Community Service (1981–1995).

Anderson, Hershel, Business Administration (1962–1988).

Anderson, Miles, Arts and Sciences (1950–1992).

Austin, Larry, Music (1978–1996).

Ayer, Hugh, Arts and Sciences (1958–1986).

Bahnsen, Kenneth, Education (1955–2003).

Bailey, Don C., Education (1962–1999).

Bardas, Stefan, Music (1954–1980).

Belcher, William F., Arts and Sciences (1950–1985).

Berger, Lorraine, Visual Arts (1964–1995).

Berkeley, Marvin, Business Administration (1973–1998); Dean.

Betti, Claudia, Arts and Sciences (1967–1989).

Bilyeu, Russell, Arts and Sciences (1960–2001).

Brady, William T., Arts and Sciences (1962–1999).

Breeden, Leon, Music (1959–1981).

Brock, Horace, Business Administration (1959–1992).

Brown, Newel Kay, Music (1970–1991).

Buckalew, Mary, Arts and Sciences (1965–1998).

Candelaria, Leonard, Music (1974–2003).

Carter, Fairchild, Business Administration (1967–1987).

Chipman, Donald, Arts and Sciences (1964–2002).

Clark, Thomas, Music (1976–2004).

Cleveland, Donald, Library and Information Sciences (1997–2004).

Clogan, Paul, Arts and Sciences (1971–1998).

Cobb, Elsie J., Education (1964–1989).

Cochran, Kendall, Arts and Sciences (1957–1984).

Coda, Bernard, Business Administration (1965–1997).

Coe, Barbara, Business Administration (1980–2005).

Collins, Michael, Music (1969–2001).

Colson, Ted, Arts and Sciences (1956–1993).

Combest, Sandi, Arts and Sciences (1966–2001).

Cooke, J. V., Arts and Sciences (1937–1974).

Cooper, J. Arthur, Education (1966–1998).

- Copeland, Ben**, Business Administration (1963–2000).
Corbin, John, Library and Information Sciences (1973–1977, 1987–2000).
Crader, Jeannine, Music (1970–1997).
Cross, C. Jack, Education (1955–1992).
Crowder, Robert, Arts and Sciences (1979–1997).
Culp, Ralph B., Arts and Sciences (1971–1999).
Curry, John, Education (1956–1984).
Cveljo, Katherine, Library and Information Sciences (1977–1988).
Dameron, Joseph, Education (1968–1995).
Davidson, Martin, Arts and Sciences (1967–1984).
Davis, Addie Nell, Human Resource Management (1951–1981).
DeFoor, Ira T., Education (1949–1984).
DeLaney, Gloria, Education (1960–1999).
DeMaris, E. Joe, Business Administration (1975–1989).
Desiderato, Robert, Arts and Sciences (1966–2004).
Detrick, Robert, Arts and Sciences (1969–1996).
Dobson, Gerard R., Arts and Sciences (1969–1999).
Donahue, Manus, Arts and Sciences (1982–2002).
Duncan, David W., Education (1950–1984).
Eady, Vernon, Education (1951–1979).
Eddy, John Paul, Education (1979–2000).
Escue, R.B., Arts and Sciences (1945–1985).
Evans, Mary, Human Resource Management (1958–1981).
Feigert, Frank, Arts and Sciences (1977–2003).
Fink, Ron, Music (1964–2000).
Foster, Bruce, Arts and Sciences (1953–1990).
Friedsam, Hiram J., Community Service (1948–1983); Dean.
Froehlich, Hildegard, Music (1976–2001).
Gaupp, Fannie Belle, Community Service (1965–1986).
Gibson, O. Lee, Music (1945–1981).
Giese, James William, Business Administration (1966–1985).
Gionet, Arthur, Arts and Sciences (1961–1995).
Glick, Edwin, Arts and Sciences (1970–1995).
Golden, David, Arts and Sciences (1985–2004).
Gough, Clarence Ray, Arts and Sciences (1950–1980).
Gough, Georgia Leach, Arts and Sciences (1952–1975).
Greenlaw, M. Jean, Education (1978–2005).
Hardin, Robert, Arts and Sciences (1956–1994).
Harrison, Norman, Business Administration (1949–1993).
Harrison, Thomas, Arts and Sciences (1972–2004).
Haynie, John J., Music (1950–1985).
Hays, Henry, Business Administration (1964–2004); Dean.
Heiberg, Harold, Music (1971–2004).
Henderson, Sam, Arts and Sciences (1953–1985).
Henoch, Miriam, Arts and Sciences (1996–2005).
Higgins, Wilfred, Arts and Sciences (1962–1982).
Hinely, Reginald, Education (1962–2000).
Holcomb, Terry, Education (1973–2005).
Hudnall, Margaret, Music (1968–2004).
Huffstutler, E.V., Education (1968–1981).
Hughes, Robert, Arts and Sciences (1962–1994).
Ivey, Mel, Music (1990–2000).
Jeffrey, Lloyd N., Arts and Sciences (1955–1983).
Johnson, Charles, Education (1957–1994).
Johnson, Doug, Arts and Sciences (1971–2004).
Johnson, James, Jr., Visual Arts (1968–1995).
Johnston, Richard, Arts and Sciences (1968–1984).
Jones, Donald, Business Administration (1961–1983).
Jones, Lois Swan, Arts and Sciences (1972–1992).
Kamp, H. W., Arts and Sciences (1950–1984).
Kester, Stephen A., Arts and Sciences (1967–1994).
Killiam, Rosemary, Music (1977–2005).
King, Barry, Business Administration (1970–1995).
Kirkpatrick, Hugh, Arts and Sciences (1961–1992).
Kobler, Jasper, Arts and Sciences (1964–1997).
Kuiper, John, Arts and Sciences (1987–1998).
Kuss, Malena, Music (1976–1999).
LaForte, Robert, Arts and Sciences (1968–2000).
Larson, George, Arts and Sciences (1970–2000).
Lee, James Ward, Arts and Sciences (1958–1999).
Lerch, James, Music (1966–1990).
Linebarger, James Morris, Arts and Sciences (1963–1996).
Lowe, Gale B., Business Administration (1965–1995).
Lucker, William, Community Service (1962–1996); Dean.
Lundsteen, Sara, Education (1977–1999).
Mackey, James, Arts and Sciences (1969–1999).
Mahoney, James H., Education (1956–1982).
Mainous, Frank, Music (1947–1983).
Martin, Charles B., Arts and Sciences (1964–1999).
Martin, Cora, Community Service (1967–1992).
Masaracchia, Ruthanne, Arts and Sciences (1990–2002).
Mason, Zack E., Business Administration (1976–1999).
Mattil, Edward L., Arts and Sciences (1971–1985).
McAlister, Edgar Ray, Business Administration (1963–2005).
McCain, Jerry, Education (1947–1981).
McCallon, Earl, Education (1965–2000).
McCarter, R. William, Visual Arts (1968–2005).
McGuire, David Charles, Music (1962–1987).
McKinley, Frank, Music (1940–1980).
Miller, Clyde, Music (1955–1983).
Miller, Donald, Music (1979–1989).
Miller, James R., Education (1977–1996); Dean.
Miller, Laurel, Music (1977–2003).
Miller, Lee W., Arts and Sciences (1948–1983).
Miller, William, Education (1964–1996).
Morris, William, Business Administration (1971–2001).
Morrisson, Clovis C., Jr., Arts and Sciences (1962–1997).
Newell, Charldean, Community Service (1965–2002).
Newsom, Herman A., Education (1962–1977).
Nichols, Margaret I., Library and Information Sciences (1956–1995).
Nichols, Martha, Arts and Sciences (1964–1997).
Norton, Scott, Arts and Sciences (1963–2005).
Odom, E. Dale, Arts and Sciences (1959–1999).
Olsen, Solveig, Arts and Sciences (1968–2005).
deOnis, Carlos, Arts and Sciences (1968–1995).
Painter, William, Arts and Sciences (1967–1996).
Papich, George, Music (1967–2000).
Parks, Lloyd C., Arts and Sciences (1967–1996).
Pekara, Jean, Education (1966–2001).
Peters, Dale, Music (1959–2005).
Plunkett, John, Education (1956–1984).
Rachel, Frank, Business Administration (1962–2005).
Redden, David, Arts and Sciences (1958–1985).
Rich, Carroll Y., Arts and Sciences (1959–1995).
Richards, John V., Arts and Sciences (1965–1993).
Richardson, Alan W., Music (1945–1976).
Richardson, Peggy, Education (1970–2001).
Riney, Bobye J., Merchandising and Hospitality Management (1973–1991).

Roach, Archie W., Arts and Sciences (1950–1978).
 Robb, George, Education (1967–1989).
 Rogers, James L., Arts and Sciences (1953–1996).
 Rogers, Robert J., Music (1948–1984).
 Sale, Richard B., Arts and Sciences (1965–1995).
 Saleh, Farida, Arts and Sciences (1978–2005).
 Scaggs, Don, Visual Arts (1968–1999).
 Schietroma, Robert, Music (1977–1998).
 Schlueter, Edgar A., Arts and Sciences (1960–1984).
 Sears, Ray, Arts and Sciences (1967–2001).
 Sherman, Robert C., Arts and Sciences (1946–1978).
 Shockley, Martin, Arts and Sciences (1950–1974).
 Shuemaker, Ira, Visual Arts (1974–2001).
 Skinner, Gordon, Arts and Sciences (1964–1992).
 Smallwood, J. B., Arts and Sciences (1965–2000).
 Smith, Howard, Education (1969–1997); Acting President.
 Smith, John, Arts and Sciences (1964–1993).
 Staples, Donald, Arts and Sciences (1979–2004).
 Stephens, Elvis Clay, Business Administration (1963–1999).
 Stevens, L. Robert, Arts and Sciences (1963–1998).
 Stewart, Kenneth, Arts and Sciences (1961–1999).
 Summers, Patricia, Arts and Sciences (1967–2002).
 Sybert, Jim, Arts and Sciences (1956–2002).
 Tanner, Fred, Education (1968–1987).
 Taylor, Glen L., Business Administration (1953–1998).
 Thompson, John, Arts and Sciences (1967–1995).
 Toulouse, Robert B., Education (1948–1985); Provost.
 Truitt, B. Price, Arts and Sciences (1945–1977).
 Turner, J. William, Education (1961–1998).
 Vance, B. Dwain, Arts and Sciences (1967–1985).
 Vann, J. Don, Arts and Sciences (1964–1999).
 Vaughan, Mack, Arts and Sciences (1965–1984).
 Vaughan, Nick, Arts and Sciences (1958–1998).
 Vela, Roland, Arts and Sciences (1965–2000).
 Vidrine, Donald, Arts and Sciences (1968–1998).
 Watson, Hoyt F., Education (1976–1998).
 Watson, Jack, Education (1956–1995).
 Wenrich, Wesley, Arts and Sciences (1970–1993).
 Westmoreland, Reginald, Arts and Sciences (1963–1998).
 Wheelless, Lawrence, Arts and Sciences (1993–2004).
 Whiddon, Henry, Visual Arts (1964–1995).
 Wilborn, Bobbie, Education (1971–1995).
 William, Morris, Business Administration (1971–2001).
 Wilson, William, Arts and Sciences (1968–2001).
 Winslow, Robert A., Music (1975–1993).
 Yeric, Jerry L., Arts and Sciences (1970–2002).
 Youngblood, Judy, Visual Arts (1976–1997).

Dates indicate years at UNT.

Chancellor and President Emeritus

Alfred F. Hurley (1980–2002).

Dates indicate years at UNT.

University Award Recipients

(As of March 2006)

Regents Professors

A number of faculty at the rank of professor who have performed outstanding research or teaching, or both, may be recognized as Regents Professors. Regents Professors devote at least one-half of their teaching effort to appropriate introductory-level courses.

Elizabeth McTaggart Esterchild, Department of Sociology and Social Work, 1987–88.

Garry Lee Landreth, Department of Counselor Education, 1987–88.

John Hugh Thornton, Department of Finance, Insurance, Real Estate and Law, 1987–88.

Randolph Campbell, Department of History, 1988–89.

Vernon Fisher, Department of Art, 1988–89.

Dan Mauldin, Department of Mathematics, 1988–89.

Barbara Merino, Department of Accounting, 1988–89.

C. Steve Guynes, Department of Business Computer Information Systems, 1989–90.

John Booth, Department of Political Science, 1990–91.

Lyndal Bullock, Department of Educational Foundations, 1990–91.

Peyton Foster Roden, Department of Finance, Insurance, Real Estate and Law, 1991–92.

Herman Totten, School of Library and Information Sciences, 1991–92.

Thomas Klammer, Department of Accounting, 1992–93.

Anshel Brusilow, College of Music, 1993–94.

Bert Hayslip, Department of Psychology, 1993–94.

Martin Schwartz, Department of Chemistry, 1993–94.

Charles Veazey, College of Music, 1993–94.

Dennis W. Engels, Department of Counseling, Development and Higher Education, 1994–95.

John Keith Johnson, College of Music, 1994–95.

Richard Grady Lowe, Department of History, 1994–95.

Robert W. Patton, Department of Kinesiology, Health Promotion and Recreation, 1994–95.

Paul Braterman, Department of Chemistry, 1996–97.

Gunter Gross, Department of Biological Sciences, 1996–97.

Allen Jackson, Department of Kinesiology, Health Promotion and Recreation, 1996–97.

P.R. Chandrasekaran, Department of Finance, Insurance, Real Estate and Law, 2000–01.

Robert L. Erdle, School of Visual Arts, 2000–01.

James Gillespie, College of Music, 2000–01.

Cindy McTee, College of Music, 2000–01.

Witold Brostow, Department of Materials Science, 2001–02.

Roy K. Busby, Department of Journalism, 2001–02.

Harlan W. Butt, School of Visual Arts, 2001–02.

Eugene Corporon, College of Music, 2001–02.

Chwee Lye Chng, Department of Kinesiology, Health Promotion and Recreation, 2001–02.

Jerome Duggan, Department of Physics, 2001–02.

James L. Poirot, Department of Technology and Cognition, 2001–02.
Victor R. Prybutok, Department of Business Computer Information Systems, 2001–02.
Jeffrey Kelber, Department of Chemistry, 2002–03.
Floyd McDaniel, Department of Physics, 2002–03.
James Morrow, Department of Kinesiology, Health Promotion and Recreation, 2002–03.
James Riggs, College of Music, 2002–03.
William Scharnberg, College of Music, 2002–03.
Marcia Staff, Department of Finance, Insurance, Real Estate and Law, 2002–03.
Gene Cho, College of Music, 2003–04.
Sigrid Glenn, Department of Behavior Analysis, 2003–04.
Donald Little, College of Music, 2003–04.
Jerry Nash, Department of Foreign Languages and Literatures, 2003–04.
Elmer Taylor, School of Visual Arts, 2003–04.
Lewis A. Taylor, III, Department of Management, 2003–04.
Jerry Wircenski, Department of Technology and Cognition, 2003–04.
Jeff Bradetich, College of Music, 2005–06.
Linda DiFiore, College of Music, 2005–06.
David W. Hill, Department of Kinesiology, Health Promotion and Recreation, 2005–06.
Stephen C. Jackson, Department of Mathematics, 2005–06.
Paul Marshall, Department of Chemistry, 2005–06.
Pamela Paul, College of Music, 2005–06.
Paris Rutherford, College of Music, 2005–06.
Warren Watson, Department of Management, 2005–06.

Decker Scholars

This award recognizes outstanding research by a faculty member in science, computer science and/or technology (two-year award). Recipients for the last ten years are listed.

Samuel F. Atkinson, Department of Biological Sciences, 1997–99.
Alan P. Marchand, Department of Chemistry, 1999–01.
Daniel Mauldin, Department of Mathematics, 2001–03.
Jeffrey Alan Kelber, Department of Chemistry, 2003–05.
Zihbing Hu, Department of Physics, 2005–07.

Toulouse Scholars

This award recognizes the outstanding teaching and scholarly/creative achievements of tenured members of the graduate faculty. Recipients for the last ten years are listed.

Vijayan K. Pillai, Department of Sociology, 1996–97.
R. Daniel Mauldin, Department of Mathematics, 1997–98.
Jerry C. Nash, Department of Foreign Languages and Literatures, 1998–99.
John A. Booth, Department of Political Science, 2000–01.
Jeffrey Kelber, Department of Chemistry, 2001–02.
Cindy McTee, College of Music, 2002–03.
Ronald W. Wilhelm, Department of Teacher Education and Administration, 2003–04.
Richard Rogers, Department of Psychology, 2004–05.
Floyd McDaniel, Department of Physics, 2005–06.

PDI Business Administration Fellowships

This fellowship recognizes the outstanding research of full-time, tenure-track faculty members in the College of Business Administration. Recipients for the last ten years are listed.

Stephen L. Poe, Department of Finance, Insurance, Real Estate and Law, 1996–97.
Victor R. Prybutok, Department of Business Computer Information Systems, 1997–98.
Marla Stafford, Department of Marketing, 1997–98.
Vicki Goodwin, Department of Management, 1998–99.
Lou E. Pelton, Department of Marketing, 1998–99.
Kris Raman, Department of Accounting, 1999–00.
Randall S. Guttery, Department of Finance, Insurance, Real Estate and Law, 1999–00.
Leon Kappelman, Department of Business Computer Information Systems, 2000–01.
John Kensinger, Department of Finance, Insurance, Real Estate and Law, 2000–01.
Mary B. Curtis, Department of Accounting, 2001–02.
Mazhar Siddiqi, Department of Finance, Insurance, Real Estate and Law, 2001–02.
Gopala Ganesh, Department of Marketing and Logistics, 2002–03.
Sherry Ryan, Department of Business Computer Information Systems, 2002–03.
Mary C. Jones, Department of Business Computer Information Systems, 2003–04.
Mark A. Davis, Department of Management, 2003–04.
Shailesh S. Kulkarni, Department of Information Technology and Decision Sciences, 2004–05.
Krishnamurthy K. Raman, Department of Accounting, 2004–05.
Chang Koh, Department of Information Technology and Decision Sciences, 2005–06.

President's Council University Service Awards

This award recognizes annually a full-time, tenure-track faculty member for a record of outstanding university service at UNT. Recipients for the last ten years are listed.

M. Jean Greenlaw, Department of Teacher Education and Administration, 1996–97.
Bruce Koch, Department of Accounting, 1997–98.
Eugene Wright, Department of English, 1998–99.
Dennis Engels, Department of Counseling, Development and Higher Education, 1999–00.
Marcia Staff, Department of Finance, Insurance, Real Estate and Law, 2000–01.
Charldean Newell, Department of Public Administration, 2001–02.
Clifford Hardy, Department of Teacher Education and Administration, 2002–03.
Grant E. Miles, Department of Management, 2003–04.
Juliet M. Getty, School of Merchandising and Hospitality Management, 2004–05.
Emile Sahliyah, Department of Political Science, 2005–06.

President's Council University Teaching Awards

This award recognizes annually full-time, tenure-track faculty members for a record of outstanding university teaching at UNT. Recipients for the last ten years are listed.

- Bertina L. Hildreth Combes**, Department of Technology and Cognition, 1996–97.
Teresa L. Conover, Department of Accounting, 1996–97.
Jhinuk Chowdhury, Department of Marketing, 1997–98.
Gloria C. Cox, Department of Political Science, 1997–98.
Rob Erdle, School of Visual Arts, 1998–99.
Kimi King, Department of Political Science, 1998–99.
Donna E. Ledgerwood, Department of Management, 1999–2000.
Jack Sprague, School of Visual Arts, 1999–2000.
Perinkolam R. Chandrasekaran, Department of Finance, Insurance, Real Estate and Law, 2000–01.
Charles O. Veazey, College of Music, 2000–01.
John S. Baen, Department of Finance, Insurance, Real Estate and Law, 2001–02.
James Roberts, Department of Physics, 2001–02.
Patricia Moseley, Department of Teacher Education and Administration, 2002–03.
Earl Zimmerman, Department of Biological Sciences, 2002–03.
Douglas Brozovic, Department of Mathematics, 2003–04.
J. Donald Smith, Department of Political Science, 2003–04.
John Quintanilla, Department of Mathematics, 2004–05.
Richard E. White, Department of Management, 2004–05.
Linda DiFiore, College of Music, 2005–06.
Jennifer Way, School of Visual Arts, 2005–06.

Regents Faculty Lecturers

An outstanding faculty member is selected by the Faculty Research Committee to deliver an annual lecture prior to the end of the fall semester at a special convocation of faculty, staff, students, community leaders and the public. Lecturers for the last ten years are listed.

- Richard M. Golden**, Department of History, 1996–97.
Bert Hayslip, Department of Psychology, 1997–98.
Cindy K. McTee, College of Music, 1998–99.
Samuel E. Matteson, Department of Physics, 1999–00.
Miguel F. Acevedo, Department of Geography, 2000–01.
Timothy Jackson, College of Music, 2001–02.
Robert Taylor, Department of Criminal Justice, 2002–03.
Zhibing Hu, Department of Physics, 2003–04.
Steven Poe, Department of Political Science, 2004–05.

Shelton Excellence in Teaching Awards

This award provides recognition to outstanding teachers based on excellence in teaching and scholarly pursuits. Recipients for the last ten years are listed.

- M. Jean Keller**, Department of Kinesiology, Health Promotion and Recreation, 1997–98.
Garry G. Landreth, Department of Counseling, Development and Higher Education, 1998–99.
Gerard A. O'Donovan, Department of Biological Sciences, 1999–2000.
Harold Heiberg, College of Music, 2000–01.
John S. Baen, Department of Finance, Insurance, Real Estate and Law, 2001–02.
Lou Pelton, Department of Marketing and Logistics, 2002–03.
Marie-Christine Koop, Department of Foreign Languages and Literatures, 2003–04.
Jeanne Tunks, Department of Teacher Education and Administration, 2004–05.
Samuel Matteson, Department of Physics, 2005–06.

For Emeritus and University Awards, the college, school or departmental designations reflect names current at the time awards were made.

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The Commission on Colleges of the Southern Association of Colleges and Schools

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Decatur, GA 30033-4097
(404) 679-4500
www.sacscoc.org

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AACSB International—The Association to Advance Collegiate Schools of Business

777 South Harbour Island Blvd, Suite 750
Tampa, FL 33602
(813) 769-6500
www.aacsb.edu

Accreditation Board for Engineering and Technology, Inc.

Computing Accreditation Commission
111 Market Place, Suite 1050
Baltimore, MD 21202
(410) 347-7000
www.abet.org

Accreditation Board for Engineering and Technology, Inc.

Technology Accreditation Commission
111 Market Place, Suite 1050
Baltimore, MD 21202
(410) 347-7700
www.abet.org

Accreditation Commission for Programs in Hospitality Administration (ACPHA)

PO Box 400
Oxford, MD 21654
(410) 226-5527
www.acpha-cahm.org

Accreditation Council for Cooperative Education (ACCE)

Stevens Institute of Technology
Castle Point
Hoboken, NJ 07030
(201) 216-8228
www.co-opaccreditation.org

Accrediting Council on Education in Journalism and Mass Communications

University of Kansas School of Journalism
Stauffer-Flint Hall 1435 Jayhawk Blvd.
Lawrence, KS 66045
(785) 864-3973
www.ku.edu/~acejmc

American Chemical Society

Committee on Professional Training
1155 Sixteenth Street NW
Washington, DC 20036
(800) 227-5558
www.chemistry.org

American Library Association

50 East Huron Street
Chicago, IL 60611
(800) 545-2433
www.ala.org

American Psychological Association

Committee on Accreditation Office of Program
Consultation and Accreditation
750 First Street, NE
Washington, DC 20002-4242
(202) 336-5979
www.apa.org

American Speech-Language-Hearing Association (ASHA)

Council on Academic Accreditation in Audiology and
Speech-Language Pathology
10801 Rockville Pike
Rockville, MD 20852
(800) 498-2071
www.asha.org

Association for Behavior Analysis, Inc.

1219 South Park Street
Kalamazoo, MI 49001
(269) 492-9310
www.abainternational.org

Commission on English Language Program Accreditation (CEA)

1725 Duke Street, Suite 500
Alexandria, VA 22314
(703) 519-2070
www.cea-accredit.org

Council for Accreditation of Counseling and Related Educational Programs (CACREP)

5999 Stevenson Avenue, 4th Floor
Alexandria, VA 22304
(703) 823-9800, ext. 301
www.cacrep.org

Council on Rehabilitation Education (CORE)

1835 Rohlwing Road, Suite E
Rolling Meadows, IL 60008
(847) 394-1785
www.core-rehab.org

Council on Social Work Education

1725 Duke Street, Suite 500
 Alexandria, VA 22314-3457
 (703) 683-8080, ext. 205
 www.cswe.org

Foundation for Interior Design Education Research

146 Monroe Center NW, Suite 1318
 Grand Rapids, MI 49503-2822
 (616) 458-0400 x302
 www.fider.org

National Association for the Education of Young Children (NAEYC)

1509 16th Street NW
 Washington, DC 20036-1426
 (800) 424-2460
 www.naeyc.org

National Association of Schools of Music

11250 Roger Bacon Drive, Suite 21
 Reston, VA 20190
 (703) 437-0700
 nasm.arts-accredit.org

National Association of Schools of Public Affairs and Administration

1120 G Street NW, Suite 730
 Washington, DC 20005
 (202) 628-8965
 www.naspaa.org

National Council for Accreditation of Teacher Education (NCATE)

2010 Massachusetts Avenue NW, Suite 500
 Washington, DC 20036-1023
 (202) 466-7496
 www.ncate.org

**National Recreation and Park Association/
American Association of Leisure and Recreation (NRPA/AALR)**

Council on Accreditation
 22377 Belmont Ridge Road
 Ashburn, VA 20148-4501
 (703) 858-0784
 www.nrpa.org

State Board for Educator Certification

1701 North Congress Avenue, 5th Floor
 Austin, TX 78701(888) 863-5880
 www.sbec.state.tx.us

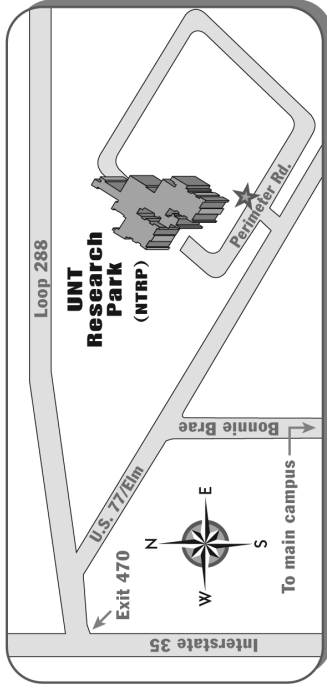
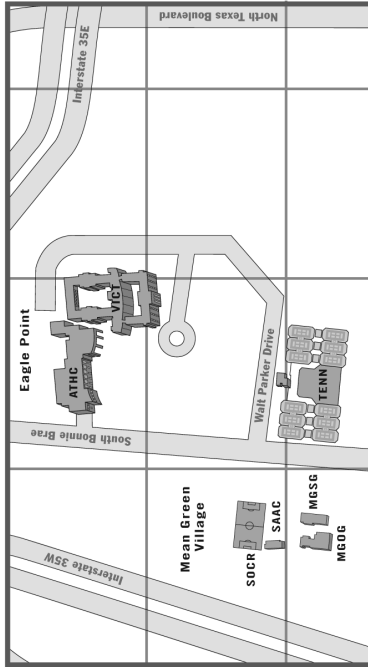
Membership in Oak Ridge Associated Universities

Since 1955, students and faculty of the University of North Texas have benefited from UNT's membership in Oak Ridge Associated Universities (ORAU). ORAU is a consortium of 91 colleges and universities and a contractor for the U.S. Department of Energy (DOE) located in Oak Ridge, Tennessee. ORAU works with its member institutions to help their students and faculty gain access to federal research facilities throughout the country; to keep its members informed about opportunities for fellowship, scholarship and research appointments; and to organize research alliances among its members.

Through the Oak Ridge Institute for Science and Education (ORISE), the DOE facility that ORAU operates, undergraduates, graduates and postgraduates, as well as faculty, enjoy access to a multitude of opportunities for study and research. Students can participate in programs covering a wide variety of disciplines including business, earth sciences, epidemiology, engineering, physics, geological sciences, pharmacology, ocean sciences, biomedical sciences, nuclear chemistry, and mathematics. Appointment and program length range from one month to four years. Many of these programs are especially designed to increase the numbers of underrepresented minority students pursuing degrees in science- and engineering-related disciplines. A comprehensive listing of these programs and other opportunities, their disciplines, and details on locations and benefits can be found in the ORISE Catalog of Education and Training Programs, which is available at <http://www.orau.gov/orise/educ.htm>, or by calling either of the contacts below.

ORAU's Office of Partnership Development seeks opportunities for partnerships and alliances among ORAU's members, private industry, and major federal facilities. Activities include faculty development programs, such as the Ralph E. Powe Junior Faculty Enhancement Awards, the Visiting Industrial Scholars Program, consortium research funding initiatives, faculty research, and support programs as well as services to chief research officers.

For more information about ORAU programs, contact the Vice President for Research and Technology Transfer at (940) 369-7487; Monnie E. Champion, ORAU Corporate Secretary, at (865) 576-3306; or the ORAU web site (www.orau.org).



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Auditorium Building	AUDB A5	Kerr Hall	KERR E5	Radio, TV, Film & Performing Arts Building	RTFP C6
Bain Hall	BAIN D4	Language Building	LANG A6	Santa Fe Square	SFE D3
Biology Building	BIOL C5	Library Annex	LANX E1	Science Research Building	SRB A5
Bruce Hall	BRUC B5	Lyceum	LYCM C6	Scouler Hall	SCOU D6
Business Administration Building	BUSI C6	Maple Hall	MAPL E5	Strader Pavilion	PAV C5
Chemistry Building	CHEM A5	Marquis Hall	MARQ B5	Speech and Hearing Clinic	SPHS C7
Chilton Hall	CHIL C4	Masters Hall	MAST B5	Sports Medicine/Fitness Facility	WGHT E3
Clark Hall	CLAR E4	Mathews Hall	MATT D6	Stovall Hall	STOV D5
Coliseum	COL E3	Mathews Hall Annex	MHA C6	Student Athlete Academic Center	SAAC H1
College Inn	CINN B4	McConnell Hall	MCON B4	Student Health & Wellness Center	HEAL C4
Crumley Hall	CRUM D5	Mean Green Office Complex and Gym	MGOG I1	Student Recreation Center	RECS C4
Curry Hall	CURY B6	Practice Facility	MGSG I1	Sullivant Public Safety Center	POLI F4
Eagle Student Services Center	ESSC D5	Mozart Square	MOZA F4	Tennis Courts	WTEN D3
Environmental Education, Science & Technology	ENV A4	Murchison Performing Arts Center	PAC F3	Terrill Hall	TH B5
Facilities Complex	PLAN C3	Music Annex	MUSA D5	Traditions Hall	TRAD D3
Fouts Field	STAD E2	Music Building	MUSI C5	University Services Building	USB D2
Gateway Center	GATE E3	Music Practice North	MPN D4	University Union	UU C6
General Academic Building	GAB B5	Music Practice South	MPS D4	Victory Hall	VICT G2
Goosby Chapel	CHAP E5	Oak Street Hall	OSH A6	Waranch Tennis Complex	TENN I2
Hickory Hall	HKRY A5	Oak Street Hall Annex	OSHA A6	West Hall	WEST C3
Highland Hall	HIGH D6	Parking Garage	PACX C6	Willis Library	LIBR D5
Hurley Administration Building	ADMIN C5	Performing Arts Center Annex	PACF3	Women's Soccer Field	SOCR H1
		Physical Education Building	PEB C4	Woolen Hall	WH D6

Off-Campus Locations:

- Brunswick Varsity Bowl BRUN
- 2200 San Jacinto Blvd

- Observatory
- 9103 N. Locust St.

The Richard and Tommy Rafees Urban Astronomy Center, located west of the Denton Municipal Airport, is scheduled to open in 2006.

Campus Map and Legend

Buildings and Major Office Locations

Main Campus

Advanced Learning Classroom, Eagle Student Services Center

Art Building

School of Visual Arts
University Art Gallery
General Access Computer Lab

Astronomy Observatory

Former missile base
North of Denton on FM 2164 (Locust Street)

Athletic Office Building

Athletic Ticket Office

Auditorium Building

Department of English
Studies in the Novel
Student Use of English
Student Writing Lab
Multipurpose auditorium

Bain Hall – *Named for Dr. Wilfred C. Bain, the first head of the Music Department, 1938, and first dean of the School of Music, 1946. Dr. Bain also organized the institution's first A Cappella choir.*

Percussion rehearsals
University of North Texas Press
UNT Institute for Behavioral and Learning Differences

Biology Building

Department of Biological Sciences

Bruce Hall – *Completed in 1948 and named after Dr. William Herschel Bruce, who served as president of the North Texas State Normal College from 1906 to 1923.*

Residence hall

Business Administration Building

College of Business Administration
Department of Accounting
Center for Information Systems Research
Department of Finance, Insurance, Real Estate and Law
Department of Information Technology and Decision Sciences
Department of Management
Department of Marketing and Logistics
General Access Computer Lab

Chemistry Building

Department of Chemistry, Advising Office

Chilton Hall – *Named for Joshua Crittenden Chilton, who negotiated the contract with the City of Denton that established Texas Normal College and 1890. Served as president until 1893.*

Adaptive Computer Lab
Center for Distributed Learning
Center for Media Production
Cooperative Education
College of Public Affairs and Community Service
Center for Public Service
Educational Consortium for Volunteerism
Department of Anthropology
Institute of Applied Economics
Department of Applied Gerontology
Department of Behavior Analysis
Department of Criminal Justice
Department of Rehabilitation, Social Work and Addictions
Department of Sociology
Center for Public Management
School of Merchandising and Hospitality Management
Media Library
General Access Computer Lab

Clark Hall – *Named for Miss Edith L. Clark, the first dean of women, 1916-1944.*

Residence hall

Coliseum

Basketball games
Commencements
Racquetball courts
Multipurpose facility
Basketball coaches office
Coliseum office

College Inn

Residence hall
Survey Research Center

Crumley Hall – *Named for John Jackson Crumley, president from 1893 to 1894. He is known for putting the "North" in North Texas Normal College.*

Residence hall/Conference Center
Housing and Residence Life
Director of Business Services
Dining Services
Residence Hall Association Office

Curry Hall – *Named for Dr. O.J. Curry, first dean of the College of Business Administration, 1946-1974.*

Classrooms
Team Computer Labs and Tutor Labs
(College of Business Administration)

Eagle Student Services Center – *Named after the university's official mascot chosen by the student body in 1922.*

Admissions, Undergraduate
Advanced Learning Classroom
(Room 255)

Campus Tours
ID Systems
Information – Campus Operator
Registrar
Class schedules
Records
Transcripts
Student Accounting and University
Cashiering Services
Student Financial Aid and Scholarships
Toulouse School of Graduate Studies
Graduate Admissions

Environmental Education, Science and Technology Building

Institute of Applied Sciences
Department of Geography
Department of Philosophy and Religion Studies
Planetarium/Sky Theater

Fouts Field – *Named after Theron J. Fouts, who served as football coach, dean of men and director of athletics. Became football coach in 1920 and was athletic director at the time of his death in 1954.*

Football games
Track meets
Multipurpose outdoor facility

Gateway Center

Chancellor
Board of Regents
Senior Vice President for Advancement
Vice President for Governmental Affairs
Vice Chancellor and General Counsel
Alumni Association (North Texas Exes)
Center for Continuing Education and Conference Management
Minicourse Office
Compliance
The Club at Gateway Center (restaurant)
UNT Foundation

General Academic Building

Honors College
College of Arts and Sciences
Department of Communication Studies
Department of Journalism
North Texas Daily
Department of Mathematics
Women's Studies
CAS Computer Labs (College of Arts and Sciences)
Microcomputer Maintenance Shop
Classroom Support
University Courses

Goolsby Chapel – *Named in honor of the Goolsby family, who provided this facility as a gift to UNT.*

Non-denominational chapel and reflection center

Hickory Hall

College of Engineering, Advising Office
Department of Economics

Because of numerous construction and renovation projects on campus, office locations are subject to change. For assistance in verifying office locations, please call the UNT Campus Operator at (940) 565-2000 or Metro (940) 267-3731.

Highland Hall (named for street)

TRIO Center for Student Development
Biofeedback Research and Training Lab
Center for Investigation of Talented Students

Hurley Administration Building – Named for

Dr. Alfred F. Hurley and his wife, Johanna H. Hurley. Dr. Hurley was appointed the university's 12th president and second chancellor in 1982 and served as the UNT System's first full-time chancellor in October 2000. Dr. Hurley held the university's presidency longer than any other chief executive in UNT's history.

President
Provost and Vice President for Academic Affairs
Senior Vice President for Administration
Vice President for Finance and Business Affairs
Vice President for Research and Technology Transfer
Vice President for Student Development
Vice President for University Relations
Academic Publications
Contract Administration
Controller
Equal Opportunity
Equity and Diversity
Institutional Research and Accreditation
News Service
Sponsored Projects and Grants Accounting
University Relations
University Communications and Marketing

Information Sciences Building

Computing and Information Technology Center – Administrative Computing
School of Library and Information Sciences
Science and Technology Library
General Access Computer Lab
Graduate Student Computer Lab

Ken Bahnsen Gymnasium

Weight room
Intramural basketball and volleyball
Women's volleyball
Indoor soccer

Kendall Hall – Named for Dr. Joel Sutton

Kendall, who left the position of state superintendent of public instruction in 1901 to become the principal [president] of the newly created state college, North Texas State Normal College, serving until his death in 1906.
Eagle Images (copy center)
Division of Aerospace Studies
International Admissions
International Studies and Programs
Studies Abroad Center
Intensive English Language Institute
Office of Postgraduate Fellowships

Kerr Hall – Named for S.A. Kerr of Huntsville, vice chairman of the Board of Regents, 1949-1967.

Residence hall

Language Building

Department of Foreign Languages and Literatures

Library Annex, 901 Precision

Technical Services
Preservation Department

Lyceum, University Union

Multipurpose auditorium/classroom

Lyric Theater, Murchison Performing Arts Center

Multipurpose theater

Maple Hall (named for street)

Residence hall

Marquis Hall – Named for Dr. Robert Lincoln

Marquis, who served as president of North Texas State Teachers College, 1923-1934.

Human Resources Department
Institute of Petroleum Accounting
Internal Audit Department
Payroll
Texas Academy of Math and Science (TAMS)
NT Institute for Educators on the Visual Arts

Masters Hall – Named for W.N. Masters, long

time head of the Chemistry Department for North Texas State Teachers College.
Department of Chemistry, Chair's Office

Matthews Hall – Named for Dr. James Carl

Matthews, who served as the first dean of the School of Education, first vice president of the teachers college and president of the university, 1951-1968.
Academy for Outreach, Research and Professional Development
Child Development Laboratory
College of Education
Department of Teacher Education and Administration
Department of Technology and Cognition
Center for Higher Education
Center for Parent Education
Center for Study of Educational Reform
Texas Center for Educational Technology
General Access Computer Lab

Matthews Hall Annex – Named for Dr.

James Carl Matthews, who served as the first dean of the School of Education, first vice president of the teachers college and president of the university, 1951-1968.

Child and Family Resource Clinic
Maturational Assessment Clinic

McConnell Hall – Named for Dr. W. Joseph

McConnell, president of the teachers college and the state college, 1934-1951.
Residence hall/Texas Academy of Math and Science (TAMS)

Mozart Square

Residence hall

Murchison Performing Arts Center –

Named for Lucille G. "Lupe" Murchison, internationally known philanthropist and arts supporter and a member of the Board of Regents (1981-1999).

UNT Lyric Theater
Winspear Performance Hall

Music Annex

Opera Rehearsal Hall
Recording Technology

Music Building

College of Music
General Access Computer Lab

Music Practice North**Music Practice South****Oak Street Hall** (named for street)

Stafford Art Gallery
School of Visual Arts ceramics and photography programs

Oak Street Hall Annex (named for street)

Print Research Institute of North Texas Press

Performing Arts Center Annex

College of Music Wind Studies Programs

Physical Education Building

Department of Kinesiology, Health Promotion and Recreation

Physical Plant Complex

Main Office, Facilities Planning
Access Control
Custodial Services
Grounds
Moving Services
Recycling Services

Physics Building

Department of Physics
Radiation Safety Office

Power Plant**Professional Development Institute East Classroom Building****Radio, Television, Film and Performing Arts Building**

Department of Dance and Theatre
Ticket Box Office

Department of Radio, Television and Film
KNTU-FM and NTTV

Richard and Tommye Rafes Urban

Astronomy Center–Named for Dr. Richard Rafes who served as Senior Vice President for Administration, and his wife.

Located west of the Denton Municipal Airport.

Risk Management Services, 712 S. North

Texas Blvd.
Risk Management Services

Residence Hall Association House

Meetings and special events

Santa Fe Square

Residence hall

Science Research BuildingBiochemistry
Center for Network Neuroscience**Scouler Hall** – Named for Dr. Florence I.*Scouler, first dean of the School of Home Economics, 1946.*
Texas Fashion Collection
School of Visual Arts fashion design and fibers programs**Shrader Pavilion** – Named for Dr. David*Shrader, former professor and dean of the College of Music.*
Multipurpose pavilion**Sky Theater, Environmental Education, Science and Technology Building**

Planetarium

Speech and Hearing Center, 907 W.**Sycamore**Department of Speech and Hearing Sciences
Speech and Hearing Clinic**Sports Medicine/Fitness Facility**Varsity sports training
Weight training**Stovall Hall** – Named for Dr. Floyd Stovall,*who served as director of the English Department and first dean of the College of Arts and Sciences in 1946.*
Dance Annex Office
Department of Counseling, Development and Higher Education
Counseling and Human Development Center
Center for Play Therapy
Program for Academic Readiness Office**Student Health and Wellness Center**Clinic
Health Education
Pharmacy
Telecommunications**Student Recreation Center** – Multipurpose indoor/outdoor recreational and fitness activities facilityClub Sports
Faculty/Staff Fitness Program
Recreational Sports
Recreational Sports Office**Sullivant Public Safety Center** – Named for*Carroll Sullivant of Gainesville, member of the Board of Regents, 1961-1978 (open 24 hours).*
Police Department
Parking Office**Tennis Courts, West****Terrill Hall** – Named for Menter B. Terrill,*president of the private North Texas Normal College from 1894 until it became a state normal college in 1901.*Center for Study of Work Teams
Department of Psychology
Psychology Clinic
General Access Computer Lab**Traditions Hall** – Named by the Department*of Housing and Residence Life and the Residence Hall Association. Interior and exterior displays showcase UNT traditions and memorabilia.*
Residence Hall**University Services Building**Bulk Mail
Central Receiving
Travel
Printing Services
Property and Inventory Control
Purchasing and Payment Services
Office Supply**University Union**Banking Services
Center for Cultural Diversity
Center for Student Rights and Responsibilities
Counseling and Testing
Dean of Students
Design Works
Disability Accommodation
Eagle Images (copy center)
Educational Resource Center
Food Court
Information, tickets, check cashing
Learning Center
Lyceum
Mail Room (Inter-campus mail)
Multicultural Center
New Student and Mentoring Programs
Post Office Substation
Student Activities and Organizations
Student Government Association
Student Legal Services
Syndicate
The Career Center (includes student employment)
UNT Bookstore
Union Administration
University Program Council
Verde Catering
Yearbook Office
Women's Center/Volunteer Center**West Hall**

Residence hall

Willis Library – Named for A.M. Willis of*Longview, member of the Board of Regents, 1965-1983, serving as its chairman from 1969 to 1983.*Social Sciences and Humanities Collections
Music Library
Archives
Oral History
Rare Book RoomGovernment Documents
Library Administration
General Access Computer Lab (open 24 hours)**Winspear Hall, Murchison Performing Arts Center**

Multipurpose performance hall

Wooten Hall – Named for Benjamin Harrison*Wooten of Dallas, chairman of the Board of Regents, 1949-1969.*Faculty Senate
Department of Political Science
Center for Economic Development and Research
Department of History
Department of Public Administration
Emergency Administration and Planning Institute
General Access Computer Lab**UNT Research Park**College of Engineering
Computing and Information Technology Center
Academic Computing
Department of Computer Science and Engineering
Department of Electrical Engineering
Department of Engineering Technology
Department of Materials Science and Engineering
General Access Computer Lab
NanoStar, Inc
NUNCONSTEEL.**Eagle Point****Athletic Center**Athletic Administration
Athletic Media Services**Champs Cafe**

Dining Hall for Victory Hall

Victory Hall

Residence Hall

Waranch Tennis Complex**Mean Green Village**Mean Green Office Complex and Gymnasium
Mean Green Softball and Golf Practice Facility
Student Athlete Academic Center
Women's Soccer Field

Historical information about building names originally compiled by James L. Rogers, Professor Emeritus of Journalism.
